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Educational Dynamics: Theory and Research

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PREFACE

If you are working on the practical problems of education or group action, or if you are working on the social psychology of group life, or if you are interested in theory construction and the integration of the social sciences—you will find this a stimulating and provocative issue of the Journal. The close interweaving of the chapters on principles of education, theory development, and research methods reveals the author's creative approach to the scientific solution of important problems of concrete everyday living.

Many of you who are teaching social psychology and related courses will be particularly interested in the sections on the theory of social interaction and on measurement techniques. Graduate students will find a host of ideas for significant research problems and practical measurement methods.

All of us who spend part of our week in the classroom or training group or committee will find new insights in the section on "Human Dynamics in the Classroom." It won't be easy to "skim through." You'll probably want to read it a second time with pencil in hand and your own classroom in mind.

The dynamics of the educational process may seem to be a relatively unimportant social issue as we face the daily unfolding of the crises in international relations and industrial relations. I believe that when we take a stand on the type of educational methodology we believe in and on the way we believe scientific method should be used—then we are taking a stand on one of the basic controversial issues of today. Dr. Thelen's thinking makes an important contribution to this controversial issue.

RONALD LIPPITT
General Editor

INTRODUCTION

This is a progress report from the Human Dynamics Laboratory, which is one of many research groups dedicated to the study of social aspects of human behavior. The report, in its four sections, gives our present tentative answers to four major questions:

a. What is the nature of the phenomena to be dealt with, i.e. within what framework of central concepts is theory construction to proceed?
b. What sorts of principles are to be investigated, and in what sorts of situations?
c. What is the methodology for arriving at scientific knowledge, including requirements for organizing research effort and strategy?
d. What are the techniques through which relevant data can be obtained?

The body of theory we wish to develop will be concerned with relationships between social and individual dynamics; this is the problem of relationships between and among person, group, institutional, and cultural levels. We refer to this theoretical area as "Human Dynamics." Four problem foci for theoretical investigation appear to us to be central:

a. The ways and means by which individual behavior contributes to the culture of the face-to-face group; and the ways and means by which the culture of the face-to-face group controls individual behavior.
b. The psychological processes through which groups become internalized in the form of role-relationships and value-attitude patterns; the varieties of psychological potency, and the factors determining the configuration of overlapping potencies in any situation.
c. The relationships between inter-group conflict and psychological conflict in individuals, and the nature of and means for resolving conflict.
d. The relationships between "scientific" solutions of social problems and social-political organization in democracy.

The Human Dynamics Laboratory (formerly the Classroom Laboratory) is administered through the Departments of Psychology and Education, with the counsel of the Dean of the Social Sciences Division, at the University of Chicago. There is a close working relationship with the Laboratory School. The core of the Laboratory consists of the instructor and, usually, 8 graduate students, of whom three have research assistantships. Most major decisions are made by this group. These students come from the Departments of Psychology, Education, and Human Development; and occasionally from Sociology, Religion, Law, and Economics.

The program of the Laboratory provides varied research, service and training experiences. Major types of activity include:

a. *Social Action Consultation.* An example of this service: The students in a class concerned with community dynamics made a psychological

assessment of forces involved in problems of minority group integration and standards in a particular Chicago community. About this time, a group of citizens became interested in these problems and the class became a consultant group to the citizens' conference. This group of students has maintained its consultant connections for eight months, and is currently attending neighborhood and block meetings, helping train leadership for these meetings, and collecting data for continual assessment of progress. The activities of these consultants are coordinated through a seminar operated by core staff members.

b. *Experimentation.* Each student in the core group has major responsibility for carrying out a research problem which he has planned within the general framework of the program. The methods and projects seminars are used to keep all the staff abreast of each others' problems; and typically, each PhD student acts as observer, role-player, technician, or analyst in at least three researches other than his own. At the present time, five of the researches will result in PhD theses, and three are lesser but equally important investigations.

c. *Participation in Conferences.* This includes major consultation to two two- or three-day conferences each year, involving planning, training, and evaluation sessions. In addition, the Laboratory puts on 5 or 6 single session programs within larger conferences. These programs represent applications of laboratory research findings and they provide opportunity for reality-testing and for discovering the practical social significance of the principles being developed by research.

d. *Leadership Training Programs:* Two eight-week programs of special training are given each year at the request of special groups. Various members of the core staff act as observer-participants and as training consultants. In addition, most of the core staff goes through a "Practicuum in Group Membership" seminar worked out along the lines of the "T" group training program at the National Training Laboratory in Group Development. Moreover, there is considerable consciousness throughout all staff meetings of our own "group dynamics," with an attempt to understand our own operation through insights gained from research. Finally, many of the students participate in leadership positions in outside social, political, and church groups.

e. *Theory Construction:* Aside from the demands of each project, the staff meets in theory seminars regularly each week for the purpose of examining suggested theoretical propositions in the light of the various research and training experiences.

f. *Inter-university Cooperation.* Beginning with a conference on the use of sound recordings in research (August, 1947), to which workers from other institutions were invited, the Laboratory has participated in inter-university collaboration. Aside from inter-university visitation,

the major channel has been the staff meetings throughout the year of the National Training Laboratory in Group Development.

The present director of the Laboratory is Herbert A. Thelen, and the "core staff" members are Jerry Sarchet, Robert deHaan, Jean Mackenzie, Marshall Edelson, James Singletary, Herbert Greenberg, Robert Lipgar, and Art Jones.

The Human Dynamics Laboratory welcomes this opportunity to present the current directions of its thinking and research, as well as some suggested implications for classroom teaching.

HUMAN DYNAMICS: A PROPOSED CONCEPTUAL FRAMEWORK

From time to time during the planning and development of a research program, it is well to stand back and take a long look at the general nature of the phenomena one is attempting to deal with. Any program is based on a point of view, a school of thought, a set of useful notions and biases which express our ideas of what is central and what is peripheral; what must be included and what can be left out; what sort of relationships to hunt for; and what kinds of applications can be made. The extent to which this frame of reference can be made explicit is the extent to which research energy can be directed into effective theory construction.

The most elegant exposition of the conceptual framework takes the form of a self-consistent body of postulates from which hypotheses can be derived. Until this point of scientific development is reached, much of research effort is actually going into the development of the framework. Research experience is one device (psychoanalysis and participation in "good" groups are others) for aiding one to make explicit in language that which is hitherto only felt to be significant. The discovery of the point of view from which one operates in research is a required step towards objectivity and organization of theoretical generalizations.

In this chapter, we shall attempt to make as clear as is now possible the framework of broad concepts which appear to be guiding experimentation and interpretation in the Human Dynamics Laboratory. In this framework, as now organized, the basic notions are concerned with the nature of experiencing, of personal-social-societal interdependence, and of societal and psychological conflict and need. *In broadest terms, the point of view to be developed is that human behavior represents the efforts of human beings to work out the problems arising from their overlapping membership in various internalized groups.* The conceptual "meaning" of this proposition will be explored in this chapter. Ascertaining the range of application and usefulness of the idea is the major goal of the research program.

Experiencing

The life of an individual, group, state, or culture may be viewed historically (or genetically) as a sequence of changes in which certain principles of growth are exemplified. Experience at one moment leads to and is followed by experience at the next. Experience has and is *continuity* (Dewey). The state of affairs characterizing the system being studied undergoes change. It undergoes change through *interaction* (Dewey) of its parts, i.e., through reorganization of its elements in their part-whole relationships. Elements or conditions refer to the individual as a person (or personality). Objective elements or conditions refer to the parts of the situation which act upon and are acted upon by the individual. Internal elements lie within the

configuration of tensions and needs and these become aware in feeling. Objective elements lie within the configuration of perceptions and become aware in ideation. The interaction of these two types of elements results in (and is)behavior. Overt behavior is generally called action. Covert behavior is inferred from action. The existence of interaction means the simultaneous changing or re-organization of both internal and object elements in the situation. The structure of the situation includes the structures of the internal elements and the objective elements. If one thinks of the structure of internal conditions as a patterning of needs, then some notion of basic needs supplies the organizing principles by which the instrumental or secondary needs are ordered and related in a given situation. These rules of organization of internal elements are different from person to person, are the result of growth and experience, and probably best represent his "personality." The "meaning" of experience is the term used to describe two kinds of changes in the structure of internal conditions; (a) the further differentiation of elements and sub-patterns and (b) the modification of the organizing principles or framework of the structure. *Internalization* is the process through which meaning in this sense is achieved. The processes of internalization of social aspects of experience and the kinds and significance of changes thus wrought in the structure of internal elements are of major concern to us.

Secondary or instrumental needs, acquired drives, strains, unbalanced forces, or dis-equilibrium within the structure of internal conditions exist continually and provide impulse toward action. These impulses arise in each situation as a response to the environment as perceived and elaborated in ideation. In situations where the pattern of impulses cannot be discharged through action, the individual may become aware of generalized feelings of discomfort. It is important to distinguish between two qualities of discomfort. One kind of discomfort reflects a state of affairs in which the pattern of impulses contains inconsistencies such that simultaneous contradictory or mutually exclusive behavior would be required. Under these conditions the feeling is basically one of anxiety and indecision. The other state of affairs is one in which the behavior required is unavailable through lack of understanding or skill. The feeling of discomfort in this situation is interpreted as evidence that a problem exists; and the chain of problem solving behaviors may be inaugurated.

The continuity of experiencing is the continual elaboration, differentiation, and modification of the structure through interaction. The problem of comprehending, understanding, and describing the structure of internal elements is the problem of making inferences from knowledge of the objective elements in the situation. We understand an individual's needs only through his actions and through those perceptions and ideas which he can communicate to us. The process of understanding one's self is one of cognition guided by feeling. The communicable and manipulatable result of understanding is cognition symbolized in the production of ideas. The

principles of organization for this body of ideas (which convey understanding of the individual's need system) constitute the *frame of reference* of the individual. The scientific attempt to understand the structure of internal elements in another individual in an interaction situation is the effort to describe the frame of reference within which the individual can be said to be operating.

If two individuals in the same situation had similar frames of reference, they would have the same pattern of basic needs. They would be able to communicate ideas readily and to reach agreement upon the major issues or problems in the situation. They would have between them free communication of feeling. Their communication and influencing of each other would have much the quality of the "internal conversation" which constitutes the thinking of one person. In effect, each would internalize the other as a part of himself. If one desired something from the other—as a student desiring help from a teacher—the interaction between them would satisfy both because through each the other would be able to meet his needs or play his appropriate role in the situation. If, however, the individuals have very different frames of reference, a host of additional problems are present. Because feelings cannot be interpreted, they cannot be shared, a common direction cannot be found and the objective problems can be formulated only with great difficulty. In the case of the student attempting to get help from the teacher, for example, additional problems would include obtaining an agreed-upon definition of the role of each in the situation, agreeing upon a common attitude toward the content area in which the objective problem lies, agreeing upon a common methodology of attack on the problem, and agreeing upon attitudes and criteria to be employed in the problem-solving process. In effect they would not only have the problem of the student getting help from the teacher but also the problem of reconciling the student's frame of reference with the teachers'. In short, they would have to develop a common culture sufficiently comprehensive for the purposes of need meeting. In any social situation there is always required a culture which is shared with respect to at least some attitudes, methods, knowledge, ideals, etc. The amount and quality of sharing required for effective operations is probably different in every situation.

The problem of building a common culture or shared frame of reference can be attacked in three different ways. First, one individual may be required to modify his own frame of reference until it coincides sufficiently with the frame of reference of the other person, as in parent-child or teacher-student interactions. Second, the individuals might work cooperatively and thus in the process build a frame of reference which is different from that of either. This occurs in the case of a happy miscegenation or during the formation of a cohesive group—which is the same thing on a broader, less intimate scale. The third method is through parallel but individual independent interaction with common elements in the environment. An out-

standing example is the discovery and easy communication among physical scientists.

It is probable that all three methods operate but to different extents in different types of situations. Thus in those areas of experiencing in which a teacher, therapist, minister, supervisor, or consultant gives guidance to another individual, the other must adjust to the method of giving guidance which is dictated ultimately by the guide. The effective guide will of course emphasize not his notions of particular solutions which after all can only modify some of the content within the frame of reference but rather the whole methodology of problem solving to be used; and he will thus produce more significant and more generalizable changes. Moreover, the guide must not only provide the model methodology, he must also provide the rules for communication and learning of that methodology. This first type of situation is also found at the societal level in dictatorship and autocracy. Here a large number of people are forced to adjust their behavior to the demands of the ruling group. This requires understanding and internalization of the frame of reference of the ruling group.

The second or cooperative type of frame-of-reference-building is appropriate for those areas of the culture in which the solution of the relevant problems requires perception and voluntary commitment to action by many people. Culture is the context of action. Culture develops most rapidly where interdependence in problem solving is greatest. The cooperative method is indicated in those situations where people are interdependent (rather than dependent-dominant). One of the major tasks of the present time is to find means for describing and identifying such areas.

Culture, produced through the processes of problem solving by all groups affected by the problem, becomes social reality. The body of tradition and custom, with its coersive implications, is a sort of reality which must be taken into account and which influences practically all social behavior.

The third means for developing a common frame of reference is possible because men, whoever they are and wherever they are, share a common human nature; and because plants and animals and mountains and stars also "follow their natures." This means that independently-developed civilizations have faced the same major problems. Even though the solutions vary, as for example in family and tribal patterns, still communication is possible between groups. Overt action belongs to this high priority objective real world. Any behavior or problem solution which can be tested against this world can be accepted or rejected with confidence. Those parts of the culture which have to do with technologies of manufacture, agriculture, transportation, and the like are on the whole easily shared because these problems are perceived and dealt with (but with different degrees of elaborateness and effectiveness) within the same underlying *frame of reference* wherever man is found.

These three approaches to the building of a common cultural frame of reference within which need meeting and problem solving can go on are well

illustrated in typical efforts to deal with the integration of a minority group such as Negroes, into the community. The first procedure results in the use of pressure groups which capitalize either on fear of being hurt ("anti-Negro" groups) or on fear of loss of social approval (many "liberal" groups). Under situations where pressure groups are used, the solving of the problem of integration is made extremely complicated by the need to solve problems of relationships between groups. There is much suspicion and questioning of intentions. Statements tend to be extreme and persuasive and emotion-arousing (rather than emotion-discovering). The result may be greater divisiveness in the community than obtained originally even though aspects of the integration problem may appear to get solved. One sees this procedure implied in a common position of other minority groups; namely "we must set up agencies to educate the Negro up to our standard. At that point we shall be able to live with him, but before then we should not be asked to." This procedure is extremely dubious because the majority group is asking to be internalized by the Negro as a powerful condescending group and this becomes a key point in the frame of reference to be built up. But once this point has been reached, then the supposition is that cooperation will be possible—that the Negro can be expected to re-organize his entire frame of reference to that end. This is every bit as ridiculous as the expectation that students who have grown up under a dictatorship will then be able to adjust to adults as co-operators later. The existence of active revolution or escape into neurosis during adolescence suggests the magnitude of the problem.

The cooperative method tends to produce jointly a new social reality; to change social law and tradition in the direction of tolerance and respect. As long as the various groups define their problem as integration and attitude change they are dealing with abstractions some distance from effective action. They are particularly likely, because of the motivation by guilt usually involved, to get off on purely irrelevant personal side issues such as inter-marriage, forced social intimacy and the like. Action will be ineffective because the frame of reference for action does not yet include sufficient elements of objective reality.

If the co-operative groups however, define the problem in terms of provision of housing, education, employment, and the like, then there becomes available much objective factual data against which proposed plans of action can be tested. The problem of "integration of Negroes" is now defined as the problem of adequate standards of living for all, employment in accordance with ability and numerical representations, etc. The conclusion is that for effective reconciliation of frames of reference and the building of a common culture, there must be a basis in objective reality as the laboratory for the testing of social or agreed-upon reality.

To recapitulate the discussion so far; we have seen the starting point for this development to be a concept of experiencing. This is understood as interaction and continuity. We have identified change in the internal ele-

ments as the product of most concern to us. We have associated this process with internalization and have foreseen some of the general nature of internalization in the concept of need, impulse pattern, and problem solving. We have seen the problem of the individual in terms of the development of an orientation to society and, identical with this, development of a control system for his own behavior and need meeting. Both orientation and control are communicated through description of the individual's frame of reference. And we see the concept usefully applied not only to the understanding of individual behavior but to the comprehension of inter-group behavior.

Our development so far leads to the point of view that experiencing can be viewed as maintenance of some aspects of a frame of reference simultaneously with change of other aspects of the frame of reference. We wish to consider now certain aspects of these two dimensions. Throughout this discussion, however, it should be remembered that the closest approximation to what happens is that the structure of the situation (including people and their environment) changes. The placement of emphasis upon the structure of the internal elements of the individual seems reasonable to us because we are primarily concerned with questions of changing human behavior and because behavior is to a high degree under control of the individual need structure.

Through experience one forms impressions at some level of awareness of the world he lives in and of himself in relation to this world. He develops habitual modes of approach to various recognizable types of problems he encounters and he learns various ways of dealing with problems that he cannot solve. He develops a system of symbols which correspond to the world in accordance with his own semantic rules, and he learns to manipulate the world vicariously through juggling of the symbols. Through thinking, i.e., symbolic experiencing, one learns to anticipate "what's going to happen next" and to plan action to have desirable consequences and to satisfy needs in the situation. To the extent that one can anticipate and control situations he has freedom to meet his own needs.

Need meeting through control of behavior must, however, satisfy two sets of criteria. First, need-meeting behavior is socially effective (results in changes in the objective situations) to the extent that one is accurate in objective analysis, has ingenuity in creating hypotheses, and has ability to test action consonant with hypotheses. The individual who cannot produce socially effective behavior cannot from an entirely objective viewpoint meet his needs. But what is viewed as socially effective behavior from a social standpoint may still not meet the individual needs as viewed from a psychological standpoint. The need-meeting behavior must in addition satisfy the criterion that the individual gets from it a feeling of satisfaction and intuitive awareness of growth and development occuring in himself. He must feel that through the behavior he has accomplished something toward his goals. Under some conditions and with some people this may be an awareness of maintenance of one's ideals for himself or of his image

of himself as an effective person. The presence of the existence of socially effective behavior not accompanied by psychological satisfaction suggests the "right things being done for the wrong reasons." Because the individual has formulated his psychological problems incorrectly he cannot solve them effectively. When one finds socially effective action under these circumstances he is justified in inquiring how the individual manages it. In general it appears that the individual is relying on the imagined assessments and reactions of others to his behavior and that the desirable consequences he is trying to achieve are his notions of the other peoples' perceptions of himself as a person, as an operator in a given situation, or as a member of their group. In any case however, the important point for our argument here is that there is a capacity to predict and to manipulate the "real" world through a subjective world picture.

This world view-frame of reference is sharpened up, structured, modified, elaborated in a continual effort to gain greater predictability, i.e., greater power to plan and execute need-meeting behavior. Past experience lives on through its modification of the frame of reference. Successful action which was rewarded tends to reinforce one's confidence and ease of operation within his frame of reference.

When one encounters frustration or inability to meet his needs, he has two courses open to him (aside from retreating from, destroying, or denying the situation): (1) modifying his world view, or (2) rationalizing the experience. The former results in learning; the latter results in misperception of the situation in such a way that it fits the individual's invalid theories about it. Because of the faultiness of our perceptions and the fact that we have learned so often that "all that was wrong was that we simply failed to take into account certain key factors," one's first tendency is perhaps to make perceived reality fit his subjective world view, i.e. to resist change. It is as if one has a vested interest in his own frame of reference, and in a philosophical sense this is true because the frame of reference is him. The need to resist change is probably greatest in people who incorrectly diagnose their own psychological problems (at whatever level of awareness) because these people can test their world view only in ways so devious that it is hard to tell whether the view is valid or invalid. Such people tend to become "wrapped up in themselves" and to lose communication with the "outside world," even though they may manipulate the outside world quite successfully from the standpoint of a *limited* set of personal goals.

When the individual frame of reference is adequate and valid, one can initiate action in his own behalf, avoid some of the demands (apparently made by others) that he cannot meet or doesn't wish to meet, and unequivocally meet the internalized demands made on him by his groups or culture. Such an individual is said to be *secure.*

People seem to differ markedly in the ease with which they can restructure those parts of their subjective world view which are most closely

related to perceptions of the immediate situation. At one extreme one thinks of the stereotypic picture of the handshaking extrovert who seems willing to accept the other fellow's definition of the objective problem, and, while with the other person, to see it his way and act according to his lights. The rigid and enduring part of such a person's frame of reference, however, lies in the tendency to formulate only problems of relationship to the immediately present people, and to solve such problems by continual dependency on them. (Consider for example, the case of Willie Lohman, in *Death of a Salesman*). At the other extreme, one may find great rigidity with regard to the content of the frame of reference most closely related to perceptions of the situation, as shown for example in hairsplitting over definitions, and in insistence on formulating the problem within one's own preconceived categories. The formation of the problems of personal relationship within this frame of reference is also likely to be rather rigid and to involve the effort to dominate and the need to express considerable hostility. Insistence upon making others conform to the details of one's own point of view is decidedly hostile because it denies to them the rights and privileges of meeting their own needs through self-directed behavior.

These two extremes are alike in that both the character of the interpersonal relationships and the need to perceive the situation as maintaining this character takes priority over objective problem solving. Both types of reference frame would be extremely resistent to change possibilities. In effect, within these extreme frames of reference, there is an eerie note of unreality and lack of response to the immediate situation. The person seems to be attempting over and over again to solve some pervasive problem (of guilt or hostility etc.), which is available only to him. One is caught in the potent grip of a situation which cannot be relinquished, and to which all other situations must be made to conform.

The frame of reference, however, can be changed to fit changes in the situation. Changes can be brought about quite effectively if the frame of reference itself contains within it adequate provision for its own change. Adequate provisions for change include acceptance of oneself as a living, growing, changing, developing person, with possibilities for increased capacity, for increased appreciation and wider sensitivity, for a broader sphere of action, and for the wielding of more and more influence. This growth potential manifests itself in new kinds of impulses or in changes in the pattern of frequency and intensity of various sorts of impulses. The provision, then, is for organizing the frame of reference through processes which can be responsive to these impulses.

The second kind of provision for changing the frame of reference hinges around the expectancy of change in the environment. What is involved here is probably an entire modality of perception and cognition: the environment is seen at any given moment as representing the interrelationships among many ongoing processes—versus the environment at any given moment is seen as a static configuration of substantive elements. The differ-

ence in cognitive modality lies probably in the level of abstraction from experience of stable structural concepts. Thus that which is seen as permanent and stable can be broad principles of change which obtain throughout the ages but which give rise to a constantly changing set of conditions. On the other hand, the effort to find permanence and stability may involve very limited abstraction, in which case one expects specific details of institutional organizations, legal laws, groups, and issues to remain constant. Demand for this latter type of structure is probably associated with the sort of rigidity described above. Expectancy of the former kind of stability is probably associated with ability to be guided by one's own impulses. This sort of spontaneity should not be confused with expediency or irresponsibility, however, because the habitual interpretation of events in terms of long range dynamic patterns provides the framework for utilizing impulses as mechanisms of adjustment. Assessment of resistance to impulses also helps one gain knowledge within the broad perspective of social dynamics. Impulses, reacted to under these conditions are not ends in themselves but only means to more effective adjustment of the frame of reference to objective reality.

Besides the provisions for modification of the frame of reference in response to changes in the internal conditions and in the objective conditions, the frame of reference may contain provision for active experimentation directed toward given goals. Specifically the frame of reference in this case contains within it an awareness of direction towards which interactions are tending. Goals are then formulated projections of desired characteristics of the situation that will be reached if the direction continues. There exists also in this case, fairly clearly visualized images of the goal, as well as the perception and acceptance of oneself as an active agent in striving toward the objective goal conditions. This sort of dynamism is probably most clearly seen in conscious problem solving. Conscious problem solving which efficiently changes the frame of reference takes the form of active experimentation through which is tested the adequacy and usefulness of existing aspects of the conceptual structure. Implementing methodological principles are present, so that consequences of experimental behavior can be unequivocally related to the conceptual framework and thus be a test of its adequacy. The more clearly goals can be formulated and methodology developed and applied, the more effective will be the learning or change in conceptual framework. In other words, *experiencing has its greatest significance when it is guided by anticipation and evaluated by comparison of results with expectations.* A major practical goal of research in human dynamics is the development of theoretical insights and technologies for extending experimental methods of problem solving and learning into the personal-social-societal sphere.

Person-Group-Societal Interdependence

The baby is the outstanding public relations man and social strategist.

The quality of his strategy-thinking is continually improved by necessity. Being weak and dependent on others for meeting most of his needs, he learns to detect and use parental anxiety with considerable effectiveness if not downright artistry. Thus the baby learns to adjust his pattern of interaction to the situation. Use of attempted dominance, dependence, seductive techniques, etc., are learned as more or less useful side correlates to meeting more basic high-priority needs. Moreover, the baby as it grows up learns to change his role in response to changes in the situation. Particularly the control of aggression or bursting through the limits in the situation has its time and place, and under many conditions is unacceptable to adults. Finally goals are learned from analysis of what brings approval and what does not.

Either legitimately, through actual casual relationships to successful need meeting, or illegitimately, through association from contiguity to need meeting, the infant soon finds practically all need meeting contaminated by the presence of a stronger person. Problem solving and need meeting of all sorts is gradually perceived as requiring a certain kind of role from each of the people party to it, of providing and requiring a certain amount or pattern of aggressiveness in overcoming obstacles, and of gaining some modicum of approval or reward. As Hilgard[1] points out in his discussion of affiliation, aggression and approval as secondary needs, although they may be by-products of problem solving directed toward satisfying more primitive needs, they soon become needs in their own right and needs which must be met to some extent in all situations. All three are social needs which are met through the agency of other people. No matter what needs may exist, when every person in a situation is working to meet a particular need, there must be some regulation of the process. The need for control by the group through some kind of "understanding" comes, at least partly, from the requirement that opportunity be distributed among the various individuals. A group will not long survive if the reward of meeting social needs can be achieved by only the highest placed people in the peck order. Moreover, control is also required because even though these social needs may have the force of motivation, still they cannot be met in a vacuum and by themselves. They must always be met in connection with objective problem-solving activity. Control, therefore, is required over distribution of time in the various activities and also over the balance of emphasis upon manipulation of objective and social reality elements in the situation.

In any group then one finds control elements through which the social needs, ever present in human activity, are governed. The need for affiliation or belongingness arises basically from the fact that one cannot depend on and get help from other people if the other people are unavailable or unwilling to communicate. This dependence on other people as agents for meeting biological needs generalizes into the need for other people to enable one to realize his own role. A teacher is not really a teacher if he has no

[1] Hilgard, Ernest, and Russell, David. "Motivation in school learning," Chapter II, 49th Yearbook, National Society for the Study of Education, 1950.

students. Leadership doesn't exist without followership. In a group the control over the quality of the affiliation of each individual seems to be exercised through a set of expectancies that the people in the group have for themselves and each other. These expectancies are rather diverse at the first meeting of the group and typically much energy is devoted to finding out what the leader expects. The effort is to obtain at least some cues useful in satisfying the need for affiliation. One of the most useful questions a leader can ask in getting a group started is "What do we expect from each other?"

The need for aggression or expression of aggression is associated with all growth and increase in capacity and influencing. As a person grows and develops new capacities and the need for realizing these, he is likely to feel hemmed in by limits in the situation which were once appropriate but no longer are. As has been pointed out many times he needs the security of the limits to protect himself from objective danger and from over-aspiration which would make failure inevitable. The border zone in which learning is going on represents continual oscillation between fantasy and actual daring. There is consolidation of skill and insight which makes yesterday's daring today's commonplace. Seeing other people jumping into real or fancied danger through daring acts is bound to arouse anxiety in people who are not yet ready for such exploits. As a means for avoiding such anxiety the safety of a set of rules, such as Robert's Rules of order can be invoked. In this case aggressive acts almost have to contain some note of hostility because they are counter to the institutionalized wishes of the group.

In any case the control of aggression by a group seems to be exerted through the group climate or atmosphere. The process problems thus controlled are problems of conflict between members of the group. In general, when the nature of the conflict is such that objective problem solving is rendered inefficient, something has to be done about it and the quality of the psychological atmosphere determines what is possible.

The need for approval is controlled in the group by the setting of standards. Failure to meet the standards does not gain approval. Failure to meet the minimum standards may gain disapprobation. It is clear that these three, the needs for affiliation, aggression, and approval and the controls of role expectancy, climate, and standards are all involved in the situation.

The control system of a group in which one can meet his needs is learned as part of the conditions for need meeting. In a sense these controls represent unstated assumptions about need meeting: "under the conditions present in such and such a group, Joe is quiet adequate in dealing with his need for warmth." When an individual attempts to meet his needs in some other group he is likely to discover the existence of these assumptions which hitherto had not been in awareness. In any case the control system of the group becomes internalized by the individual as the necessary conditions for need meeting. And these conditions are operative in the individual's frame

of reference even when he is alone. To change these conditions requires impact of a different sub-culture which is in conflict with the earlier one. A group in which one has satisfactory experience of meeting his needs is important to the individual, he is inter-dependent with it, it has potency for him, and it operates as an imaginal audience when he is alone.

These internalized conditions of group control over behavior constitute a pattern which we shall refer to as *membership* in the group. What is usually thought of as the value-attitude system of a person can be seen as the set of internal conditions which best represents the group. Specific details of the group—the names of the other people, the kinds of problems that brought it together, the nature of the leadership style—all of these things may perhaps be forgotten, but the group lives on through its contribution to the individuals value-attitude system. The conscience is the surrogate in perception, perhaps quite distorted, of the group.

One important aspect of the meaning of his behavior to an individual is the perception that it affects his membership in (imaginal or real but in any case) potent and important groups.

From the comments so far one may reasonably expect certain consequences. One possible expected consequence is inter-group hostility. The dynamics involved are akin to those of nationalism. The reasoning might run as follows: if a group can meet my needs, then it is important to me. I recognize its importance by naming the group—by characterizing it, by having an image of it as a useful group. (This set of descriptive symbols shared with others also operate as a focus for identification and helps to hold the group together.) But if a group is useful to meet my needs, it also makes certain demands. On the whole I must conform to the control system. I must give up irresponsibility but not necessarily freedom. A group which demands things from me I must see as worthy of the demand. It would take a good deal of adjustment and possible anxiety to move out of this group into another group even for the purpose of meeting the same needs. If it is not as good as the other group for meeting my needs then, to avoid these anxieties and need for new adjustments, I must pretend that my group is adequate. This seems to take the form of "My group best." Now actually I cannot be sure because I have not experimented with both groups and the data are simply not available to me. Therefore the concept of "my group best" is based on inadequate evidence and can therefore be supported not by data but only by opinion and persuasion. I make up for my lack of confidence in my judgment of the group through an array of defensive behaviors and I achieve my greatest security through not letting the problem arise in the first place. This means in effect cutting myself off from the perception of other groups as possibly more useful. If communication is required because of exigencies in the social situation then I must find ways of making the competing group seem less attractive. I must discredit it in some way. I also have fear of the feeling of guilt and of letting the other members of my group down through thinking, however idly or wishfully,

about the other group. These anxieties and guilt feelings are projected in hostility to other groups. The chain of events, of course, does not have to be this complicated. Many groups are defensive coalitions from the very beginning.

A second kind of consequence that might be expected from the above concepts is what might be thought of as individual self-reinforcement through creation of fictitious groups. If in meeting one's needs, there is always associated a group control system with problem solving, then, in the kinds of problems in which no group is perceived to be involved the individual may reinforce himself by constructing in fantasy an entirely fictitious imaginal group. The author writing a paper, for example, is likely to have some image of an audience. This audience may or may not exist anywhere on heaven or earth, but still its imagined standards, climate, and expectancy, projected into it by the author, exert real control in writing. The imaginal audience of a person in transition between middle class and lower upper class society is of interest. To whom does the individual refer his behavior? He is rejecting the values of the middle class and has not yet been able fully to accept the values of the upper class—this will not be accomplished until he is absorbed into it. Since no real group is available to him for interaction or to serve as conscience, he may then have to construct a purely fictitious group. The danger in referring behavior to a group which doesn't exist is that the behavior is likely to be seen as out of line by every group that does exist. (It may be asked why he doesn't pal up with other people who are equally in transition. This would be possible to the extent that each of the potential group members is able to acknowledge to himself that he is in transition and to the extent that there is no guilt attached to this process.) Besides fantasy groups which, to be sure, don't exist, one can for the purposes of solving some kinds of problems, construct an imaginal, non-existent (but potentially existent or plausible) group whose control system projected from the person can influence his behavior quite desirably. Every time the teacher makes an important curriculum decision, he may wish to utilize an imaginal group consisting of representatives of the parents, students, administration, and community. Such a group may not actually exist. (If it did, the teacher probably wouldn't have opportunity to utilize it anyway). One can however, imagine such a group and use it for reality-testing of the probable consequences and validity of a decision which affects all of the members of the group. Wierd combinations may be possible. Thus when a ten year old boy is reluctantly doing his arithmetic homework, one gets the impression sometimes that his imaginal audience consists of the teacher, two side-kicks, and the more anxious parent in the situation. The fact that the boy, instead of doing the math, stares abstractedly into space might reinforce one's feeling that having put together such a group he must now help it work out its conflicts, values, roles and climate to some level of tolerance before he can be expected to work on his math.

Some of the aspects of the internalized group which, according to this theory, are probably incorporated into the individual's frame of reference may be indicated here. First, there is a set of values or directions, and adherence to this set of values expresses loyalty to and identification with the group. One would expect adherence to these values to be greatest when the group in which they were produced is most potent, i.e., when it has the greatest significance and recognized usefulness to the person in question. One might expect adherence to values to be least and the values even to be rejected under conditions where need meeting was blocked by the group in question. One might expect values to be most confused if the potent group experience led to confusion of control systems within the group. A second series of expectations revolves around the concept that the individual is not only affected by the group but also attempts to influence it to provide more satisfactory conditions for his own need meeting.

Behavior which is under the influence of an imagined or remembered potent group is to some extent directed to that group as well as to the objective situation. We see this very often in such phenomena as a person who feels his role to be weak and inadequate in one group attempting to make up for it by being leader in another group. His satisfaction in that leadership role may be quite out of proportion to the accomplishment involved in being leader because the meaning of leadership in the present group is reinforced considerably by overtones of meaning from the other imagined group. One might further expect that the particular problems that an individual is sensitive to and the methods of solution he employs may be relics of previous group experience in which the group still has a control over spontaneity and inhibition in certain areas of endeavor. Thus among the skills and sensitivities which can often be traced back to experience in a training group several years earlier are (1) sensitivity to the communication of feeling as well as of ideas; (2) sensitivity to the individual problems of working out satisfactory roles in a group; (3) sensitivity and concern over the non-participant and over the tempo of participation which controls the rate of reward and hence the satisfaction of participation; (4) sensitivity and skill in mobilizing group control over individuals who otherwise might be disruptive, and the like.

It should be noted that one has two alternatives at this point. One can think of these sensitivities and skills and values as entities which have been learned and incorporated somehow into the structure of internal elements of the individual. These skills and values would be seen as related together; quite specific varieties of interaction possibilities would arise from these relationships, and in these would be perpetuated the effort to maintain or improve one's membership role. Relationship would thus be explained through past experience. In effect one could argue that the group as such drops out and is lost, even though it remains in the skills and attitudes of the person. The alternative we are betting on is that the group remains in the sense that effort to change behavior actually has the meaning (held

over perhaps in the long distant past) of influencing one's role in that forgotten group. Putting the argument in terms of forgotten groups we think has some significance. But the argument will probably be much more acceptable when it is applied to the question of simultaneous present membership in several different kinds of groups. At this point the membership concept of behavior seems to us to be necessary.

Before moving on to the major problem, namely the relationships between behavior and overlapping group membership, it will be useful to consider some important dimensions of membership as related to need-meeting. The distinction between *psyche* and *socio* groups offers a fruitful approach.

Some of the differences between these two types of group, as suggested by Jennings[2] and elaborated in a number of places are:

1. The psyche group is formed by voluntary association of people who want to be together. The socio group is formed from people who have a stake in an identified objective problem, and the association may be involuntary.
2. The psyche group tends to be small, and to be characterized by much freedom to "sound off," express anxiety (personal), and to talk in "confidence," i.e. privately. The socio group may be very large, is regulated more strictly by explicitly stated procedure, provides less opportunity for expression of personal anxiety, and its proceedings are non-confidential, i.e. "public."
3. The psyche group is concerned with deeply-involving problems of personal relationship (although they may be discussed under the topics of sex or religion), and the cognitive product is primarily clarification of one's own position or state of emotional well-being. The socio group is concerned with more psychologically remote problems (from the social realm), and the desired cognitive product is visualized action.
4. The individual has much more influence on the psyche group because it is smaller, is much more responsive to individual need as expressed in feeling, and because it has no "set" agenda or public criteria of success and failure. In the socio group, the individual must adjust much more to the group *as a group*, and interpersonal transactions are mediated through the pressure or stimulation of the group as a whole. Success or failure is objectively demonstrable.
5. The socio group is likely to be quite heterogeneous with respect to the sub-cultures of its members because the basis for membership is concern over and possible contribution to solving a particular social problem (garbage collection, learning the multiplication table). Communication is obtained by imposing an arbitrary minimal (and we now think inadequate) culture in the form of rules of order. The

[2] Jennings, Helen Hall. *Leadership and Isolation.* New York: Longmans, Green, 1943.

because there must be a considerable amount of minimal communication possible before it can form. The group then rather readily moves into the formation of its own unique sub-culture rather than into formal decisions about rules governing procedure. Sometimes, however, many superficial cultural differences in such matters as language, manners, and social institutions can be tolerated; in this case, however, there is a more potent communality in the form of mutual acceptance and complementation of psychological role. Thus a father-son or courtship relationship may be the basis of the group. The role relationships are clearly understood and the details can be worked out after rather than before the role relationship is established.

It is clear that different sorts of needs can be dealt with in these two kinds of group, and that these needs are complementary. Jennings points out that the psyche-group needs are more dominant, that everyone must have psyche group experience somewhere in his daily living, and that if he doesn't he will try to utilize smaller groupings split off from the socio-group. She poses the question of how can the psyche-group be made to serve the socio-group?

There are a number of relevant observations that may illuminate some of these matters. (a) The teacher in one class "dared" the students to get together between sessions and "pan" the class, the teacher, etc. This was a class in which much frustration was experienced because the teacher gave the group little help in setting its goals. The "coffee" group was believed by all concerned to have saved the situation. (b) The voluntary-association "buzzing" during the break in a two hour class was followed, many times, by the rapid agreement on activity to be carried out, even though the preceding hour may have produced little progress in this direction. (c) In a class devoted to training in skills of group membership, nearly every member reported that he had a confidant outside the group to whom he talked at length about his anxieties in the class. (d) Breaking up this class into twosomes to interview each other on the question of "what factors make participation harder" uncovered a great many anxieties and fears that could not be discussed prior to this time in the group as a whole. (e) At times when the frustration of the group was handled by breaking the large group into smaller working groups, the reporting back by each small group was noticeably hostile to the rest of the class.

In any group whatever, one can see relationships between psyche-needs and socio-needs. Under certain conditions, the pattern may switch from one to the other. Thus too deep or threatening an interpretation in a psyche-group may drive it into an abstract academic discussion. The reverse move is seen in a socio-group which may roll along with a series of decisions and then disintegrate into a blow-off session at the time when it has finally to commit itself to concrete action. Good leadership functions in either group to preserve whatever balance is appropriate for the needs of the group at a given time. The socio group needs to use such means as observer feedback,

buzz groups, temporary adjournment, role playing, outside interview, etc. from time to time to enable it to deal with its own problems of individual security and group cohesiveness. The psyche group needs a minimum activity core such as bridge-playing, taking a ride, or planning to reorganize the local chamber of commerce, to provide a safe retreat from the "closeness" of its usual content.

The point to be made from all of this is that the extent to which a given high-potency socio-group experience leads to conflict over membership implications of behavior in other groups may well depend on the adequacy of the psyche-group life within the socio-group. Put more simply, a group which can deal adequately with the anxieties of its members is less likely to be internalized as a rigid inflexible conscience. The contribution to the internalized frame of reference includes not only the group value-pattern but also methods of dealing with, applying, adjusting to, and changing the value pattern as situations demand. The distinction is easily seen in the comparison of a rigid Hitler nationalism that inevitably leads to war to maintain artificially an unstable set of social conditions and a nationalism based on symbolized processes of individual need-meeting. The difference can be seen also in the peer relations of children from psychologically secure homes as compared with those from psychological slums. The attempt of the child to emulate the parental roles which produced the anxiety in the latter case shows how little opportunity there was for integrative and adjustive psyche-experience in the family. (Compare also with Frenkel–Brunswik[3] and Sanford's distinction between ethno-centric and liberal personalities.)

Another approach to the problem of the psyche-socio balance in a group is through consideration of the group's methodology and symbols of identification. In these terms, the distinction is between a solution-oriented pressure group, using whatever means are possible to obtain specifically stated conditions versus a methodology-oriented group, unbiased toward any particular solution but insistent that the means used satisfy a variety of criteria. In the former case, the values and ethics presumably reside in what the group stands for by way of answers: (i.e. in a set of social beliefs). In the latter case, the values and ethics reside in what the group *is* as defined operationally in terms of its behavior. The former group is likely to exhibit un-dealt with conflict between verbal and action levels; to exhibit different and perhaps antithetical values in the two types of behavior. Such a group should be expected to demonstrate many symptoms of conflict, including defensiveness, apathy, and hostility to other groups. The latter group should be secure and well integrated because part of its methodology is devoted to the problem of maintaining integration. The former group is easily run by demagogues. The latter group is forced to be "democratic" with regard to such matters as making adequate use of the perceptions of all concerned,

[3] Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., and Sanford, R. N. *The Authoritarian Personality*. Studies in Prejudice Series, New York: Harper & Brothers, 1950.

finding a sense of direction which at all times makes sense to everybody, reality-testing its administrative provisions before trying to institutionalize them, maintaining sensitivity and responsiveness to changing situations and to changing perceptions resulting from further experience with the same situations. The expected differences in the ability of an individual to deal adequately with conflict stemming from overlapping membership in these types of groups is apparent.

Conflict: personal and social

One may consider the human dynamics of society from several points of view each representing a different level of abstraction in thinking. Thus, one may think of society as a universe of individuals each thinking his own thoughts, engaging in his own activities and for his own purposes. One may think of society as groups of men organized around common interests, common needs, common methods of operation. One may think of a complex set of institutionalized functions of transportation, distribution of food, provision of housing and the like. One may think of the structure of nations and institutions within nations. Finally one may conceptualize society in terms of forces and movements and ethical systems. Any adequate science of human dynamics must take all five levels into account and the special contribution of such a science should be the working out of relationships among these levels. At the present time, in view of the state of development of the contributory sciences, it is convenient to think of the group as mediating between the individual and institutional, functional, and ethical levels. In group dynamics research the investigator is likely to turn the statement around to think of the contribution of the other four levels to the group level.

In studying and theorizing about the phenomena involved, one must also ask the question "In what sorts of situations will the relationships among the various levels be most clearly revealed?" The proposition stated at the beginning of this chapter implies that the most useful situations to study are those which are characterized by conflict.

Conflict arises in situations where it is necessary to reconcile two or more alternatives which are perceived to be irreconcilable. Conflict within an individual arises when a particular behavior or course of action anticipated or being undertaken threatens his membership in a potent group, real or imaginary. Presumably the behavior wouldn't be undertaken if it did not enhance his membership status in some other potent group, so that the decision is partly a decision between two groups. According to this interpretation, the selection of a particular behavior or course of action by an individual in a conflict situation has to him the meaning of rejection of at least one potent group. In a sense he is forced to take sides with one group against another in a situation even though both are important and valued by him. This does not imply that the groups involved are necessarily at loggerheads with one another but it does imply that there is something about

the relationship between the individual and the groups that give rise to his perception and feeling that a behavior which would be approved in one group would be disapproved in another.

The case of two groups, both actual, both equally potent to the individual, but having basically antithetical purposes would seem improbable. Most individuals do not become involved in groups whose ends are mutually incompatible. It is much more likely that the two groups would profess the same ends but employ very different means, (e.g., methodologies, member-member attitudes, and standards).

Barker well illustrates the problem with respect to teachers in the following description:

> "Teachers appear to be placed in conflicting, overlapping social situations to a greater extent than most professional people. Teachers must be highly sensitive to the changing demands of many relatively independent groups: their classes, their colleagues, their administrators, their communities. Because of their exposed and dependent position, the behavior of teachers is very sensitive to these simultaneously acting, but independent and often conflicting influences. Consider some concrete determinants of the teachers' behavior in the classroom. First of all, there is the classroom situation: The attitude of the pupils, the requirements of the lesson, and the teacher's intentions and ideals with respect to it. At the same time the teacher's behavior is to some extent determined by the facts of the larger school administration. Perhaps an uncertainty as to the attitudes of the administration towards his work, the feeling of frustration, failure, and abuse because a colleague has received an "unwarranted" salary increase, or a feeling of futility over the small prospect of professional advancement. There is also the community situation which the teacher cannot escape and to which he is particularly sensitive: Limitations upon his personal freedom in some political, social, and economic spheres, and coercion in others."[4]

The conflict due to overlapping potencies may involve long past, irreal, or imagined groups as well as groups actually present. An individual throughout his life time may refer his behavior primarily to the values (internalized control systems) of groups long since incapable of exerting direct control. Families, peers, and church groups experienced in early childhood, even schools and particular classes with particular teachers—these may contribute the stuff of conscience which then operates henceforth. In fact the parent, church man, and teacher all hope that this may be so. What is frequently interpreted and deplored as the lack of influence of these early groups over a person's later behavior, may be not that so much as a very strong influence which tends to prevent the individual from playing the role most appropriate to himself in later groups. One is inclined to guess that groups which

[4] Barker, Roger G. Difficulties of communication between educators and psychologists: Some speculations. *Journal of Educational Psychology*, September, 1942 pp. 416–426.

produce this kind of conflict later on could be characterized as inflexible, autocratically run, and without adequate adjustment mechanisms. One could further guess that the individual had inadequate psyche experience in other groups during this time. This is particularly likely since the kind of group mentioned, while it would certainly raise the need for psyche group experience, would leave one without skill in achieving it.

In the event that the conflict arises over maintenance of satisfactory membership roles in two groups which actually and currently exist, the conflict should be heightened if, objectively speaking, the two groups themselves are in conflict. That is, psychological conflict of an individual in a particular situation often does reflect aspects of inter-group conflict. One would expect inter-group conflict to be maximum under the following conditions:

(a) The two groups have equal power in the community,
(b) The two groups share the smallest core of common values and rituals.
(c) Both groups are highly motivated to work toward the same ends.
(d) In both groups there is an extremely rigid and thoroughly structured control system.
(e) Both groups lack resources for reality testing.
(f) In both groups there is failure to distinguish group process problem solving (psyche activity) from objective problem solving (socio activity).
(g) In both groups the self images are not consonant with reality.
(h) The *raison d'etre* in both groups is need for protection against real or fancied aggression by others.
(i) Neither group defines its objective problems comprehensively; each has defined its problems in relatively superficial or partial terms.
(j) Both are competing for the same rewards.

The conditions under which inter-group conflict is least are:

(a) Considerable communication between groups of ideas and feelings.
(b) Communication based on specific problems which contain many objective elements.
(c) Experimental methodologies of problem solving used in both groups.
(d) Adequate psyche experience available to members of both groups.
(e) Agreement between the groups on the spheres of influence and action of each in the community.
(f) Perception by each group of likely reward from the community for effective operation.

The identification of the above conditions conducive to inter-group harmony argues for such practical devices as over-all community planning

with community representatives helping to determine the policy of each group, considerable reporting between groups of their respective activities, reporting to the community, adequate use by each group of consultants on social problem solving methodology, and a common concern in all groups for the dignity and responsibility of all peoples in the community whether in a group or not.

The manifestation of conflict and the arousal of anxiety over conflict within the individual is the result of an interaction between internal and objective elements in the situation. This means that whatever tendencies or possibilities of conflict are present among the internal conditions still there must be cues in the objective situation which actualize this potentiality. Thus the objective state of inter-group co-operation, competition, or hostility is not irrelevant and certainly increases the probability of individual conflict or harmony. More directly related, however, to the arousal of conflict is the individual's view of the situation and the relationships among the dynamics of membership in the various internalized potent groups governing the situation. Conditions for maximum personal anxiety and conflict appear to be:

(a) The internalized groups involved in the situation have high and equal potency for the individual.

(b) The individual has a clear perception or definition of the controls in each group.

(c) The individual perceives minimum congruence between the group control systems.

(d) The individual has minimum sensitivity and competence to experience psyche group aspects in both groups.

(e) The individual has a lack of adequate psyche group life outside of these groups.

(f) The individual perceives the internalized groups as being oriented around pressure mobilization rather than around methodology.

(g) The individual perceives the internalized groups as lacking in adequate leadership.

The range of situations involving psychological conflict transcends the possibilities of inter-group, objectively-assessed conflict. Two types of situations related respectively to group and individual action are of particular importance to a democratic society. The propositions relevant to these two types of situation are: first, that a person participating in a group always fulfills two roles: he is a member of the group, participating on a peer basis with the other members of the group, and at the same time he is a representative of his own sub-culture (i.e., he has membership in many other groups as well). The second proposition is that individual decision-making and self-directed action is referred to whatever internalized groups are potent in the situation. In either case the membership relationships between the

individual and the groups involved are influenced; and with this his actual and potential need-meeting possibilities.

The methods by which individuals deal with these types of conflicts are of fundamental importance to our effort to develop a democratic civilization because the course of democracy is determined eventually by behavior of individuals; and the resolution of conflict is the most fundamental dynamic in individual interaction.

There are a number of response modalities or typical courses of action that an individual may employ in a conflict situation as defined above:

1. The individual may interact in a way which will increase the potency of one group relative to the other. Since the greatest conflict and indecision and anxiety results when the groups are of equal potency, anything which reduces the potence of one group or increases that of the other or both will help to resolve the problem. The problem for the individual becomes one of assessing the relative amount of reward in terms of need-meeting possibilities obtainable from each group. The decision is fundamentally made on this basis but action cannot be carried through until the individual has succeeded in rationalizing this decision and accepting it emotionally.
2. The individual may redefine the situation in such a way that he can perceive that one of the conflict groups is not involved in it. This process of "Rendering Unto Caesar" must involve redefinition of the boundaries of action of the conflicting groups or redefinition of the problem in such a way that it becomes unattractive to one of the conflicting groups.
3. The individual can refer the conflict to a higher internalized or actual authority for decision. Such an authority is an over-all ethical system whose surragate might be God, a respected father figure, an image of a generalized culture, or even a special group constructed in fantasy for the purpose.
4. The individual can destroy or deny elements of the interacting situation in such a way that he can perceive that the problem no longer exists. This probably amounts to suppression of conflict and sublimation of need or escape from need by means of a variety of neurotic possibilities.
5. The individual can resort to reality testing and a more or less rational problem solving approach provided he accepts the reduction of conflict as a major objective in problem solving.

These statements of the means for resolving conflict tend on the whole to be formal and deductive. They suggest directions of a research program for the purpose of discovering the social-psychological dynamics involved in these types of interaction patterns. The following possible interpretations are suggested:

1. To change the relative potency of groups, the individual is forced into an attack on one group or a defensive kind of support for the other. In terms of membership behavior, this suggests such possibilities as hostile criticism of the group, the making of impossible or unrealistic demands on the group, and blockage of communication within the group; the supportve-defense alternative suggests such behaviors as tendency to participate beyond one's ability to contribute, praise of the group, and inflated expectancies of what is possible to the group.
2. Redefinition of the conflict situation as outside the boundaries of concern of one of the groups may be suggested as having within it the psychological element of withdrawal from membership in that group. There ceases to be member-group interaction in this situation. This would appear to amount to denial of the group with consequent feelings of guilt and disloyalty.
3. Turning to surrogates of a higher authority for a settlement of conflict would appear to constitute dependency, and with it, dynamisms of self-acceptance and self-rejection.
4. The suppression of conflict suggests the psychological elements of blockage and frustration eventually followed by neurotic escape.
5. Resolution of conflict through problem solving methods may perhaps best be seen in terms of the "action-research cycle" which involves the following elements:
    (a) Reconnaisance of the situation with accurate diagnosis of the psychological and objective conflict elements:
    (b) Planning possible alternative behaviors and assessing the values and costs of each with selection of the most advantageous behavior possibility:
    (c) Carrying through the behavior:
    (d) Assessing the consequences in terms of the changes produced in the situation: redefining the problem, etc., through the next cycle.

These tentative interpretations lead to the suggestion of the concept of response modality and interaction considered formally in Chapter 3.

Summary

The purpose of this presentation has been to indicate the phenomena with which the science of Human Dynamics should be concerned, as we see it, and to develop a proposition which may serve as the focus for fruitful research in this area.

Dewey's[5] philosophical definition of experience as having the aspects of interaction and continuity was taken as the starting point because it rather neatly avoids the subjective-objective dilemma (exemplified in phe-

[5] For a simple statement, see Dewey, John. *Experience and Education.* New York: MacMillan, 1938.

nomenological *vs* behavioristic psychology) and because it adequately recognizes the nature of development through time.

To enable us to handle the problem of stability and change (as a result of interaction) of laws of interaction, the concept of frame of reference was developed. It was seen as providing the rapprochement of cultural orientation and individual need required by the postulation of experience as interaction. We next tested the usefulness of the concept by showing that familiar and significant social-psychological concepts could be organized around the three logically-deduced ways of changing the frame of reference. The rest of the chapter was devoted to developing the content of the frame of reference through exposition of its structural and dynamic elements.

We paid our respect to the familiar story of how interdependence develops, and then went on to the central hypothesis (of Human Dynamics as here presented) that the processes of meeting social needs have the meaning to the individual of changing his membership role in various internalized groups. The concept that all behavior is partly directed to the problem of interpersonal relationships was examined from a number of angles and some dimensions of the dynamics of membership were spelled out, with particular reference to the notion of group potency.

The concepts so far developed were then applied to the problem of conflict, which was identified as the most significant social-psychological phenomenon in a democracy. Conflict situations were proposed as a useful research focus because in these the relationships between personal, group and societal levels can be revealed through concommitant variation. It might be added as an aside that it is for precisely the same reason that the experience of conflict situations plays so important a part in all learning and social change.

It was indicated that from an objective point of view inter-group conflict arises because the same event is perceived differently by different groups. Psychologically, personal conflict arises because the individual perceives that the behavior required in the situation is threatening to his membership (and therefore need-meeting possibilities) in one or more groups which have high potency for him.

The groups involved in internal conflict may exist objectively, may have existed in the past or be anticipated in the future, may be imaginary or fictitious, and may be potentially real or unreal. The groups involved in societal conflict must be objectively describable in the present.

The chances that an individual will resolve conflict successfully depend upon past experience in groups which could deal adequately and reflectively with their own membership (or individual security or process) problems and upon the potency of such groups in the present conflict situation.

In view of the state of our civilization at the present time, major research efforts should be devoted to two problems: (1) the investigation of the within-group interactions involved in developing adequate methodology for dealing with the problems of mutual co-operation and security of indi-

viduals, with special reference to the relationship between internal group processes and objective problem solving by the group (e.g., influencing of its social and physical environment by the group). (2) Investigation of the factors determining the patterns of potency of groups for the individual in various types of interaction situations, with special emphasis upon the psychological dynamics of the internalization process as related to the development of personality.

The major problem for education is to train people for effective need-meeting through inter-group co-operation, action problem solving in groups, and personal-group interaction. Basically this includes the development in each individual of a frame of reference adequate to deal with physical, social, and psychological reality in their inter-relatedness in every situation.

HUMAN DYNAMICS IN THE CLASSROOM

Translation of a body of ideas about the nature of Human Dynamics into a set of policies for teaching, and then observation of what happens when one tries to teach that way, constitutes an excellent device for discovering operational meanings of concepts, for testing validity of theory, and for staking out its more obvious areas of inadequacy. Other areas of application than teaching could be examined as well, and experiences in conferences, community study, group dynamics training programs, and research staff conferences (in addition to classroom experience) have been found valuable for the purpose of arriving at what is believed to be a fairly fundamental body of principles and policies for classroom use.

The purpose of this presentation is to illuminate, through application to teaching, some of the possible meanings of the preceding chapter; and also to relate a variety of experiences in the research, training, and consultant activities of the Human Dynamics Laboratory to the various principles. Accordingly, we shall first state nine principles which seem to us among them to convey much of the meaning of the proceeding chapter, and then we shall discuss each one in turn, first indicating some of the notions which are organized in the principle, second, illustrating from experience what appears to be plausible examples of operation of the principle, and third making some suggestions as to the direct implications for the classroom teaching and learning.

A Suggested Body of Principles

1. Learning experiences in the classroom serve two functions:
   (a) They relate pupils, through the classroom group, to the larger society and to other groups.
   (b) They provide the achievement content of skills and knowledge as well as the process content of personal-social membership problems.
2. The potency for the pupil of the classroom group depends upon the extent to which it enables him to meet his needs.
3. Learning to meet needs effectively is basically the problem of learning the experimental method through application to real, personally-involving situations.
4. The structuring, through planning, of experience provides goals and limits. Within these limits there should be complete freedom for experimentation.
5. Anxiety over internalized interpersonal (or group membership) conflict takes priority over and interferes with motivation to learn lesson content.
6. The experiences and demands of a particular classroom represent but a fraction of the students' involvements and interests in living. The

broad twenty-four-hours-a-day experiencing of students influences the quality of classroom experience and is influenced by it.

7. A democratically run classroom group provides reinforcement of the culturally desirable sides of student ambivalences in conflict situations.
8. Assessment of group affect and analysis of the problems it is symptomatic of provides the major mechanism for steering the classroom group.
9. Learning will be most effective under proper operation of the Principle of Least Group Size.

Discussion of the Principles

The first principle may be restated: that all classroom experience contains within it the elements of two kinds of problem solving: (1) that which arises out of the efforts of the individuals to work together as members of the group (process problems), and (2) that directed toward the usual objectives of learning (achievement problems). Basically, process problem solving is the meeting of needs of individuals to find "security" in the group through development of satisfactory role relationships, whereas achievement problem solving is the meeting of needs of the group to find "security" with respect to other groups and with respect to the "outside world."[6] This is another way of pointing out that experience in the classroom has both socio- and psyche-aspects.

1. A number of empirical findings can be cited to illuminate this principle:

(a) John Withall,[7] in his analysis of teacher statements, undertaken for the purpose of constructing an instrument for measuring classroom climate, found it possible to classify all statements in a series of categories which have two basic dimensions of self-problem reference and group-problem requirement. In other words the teacher continually communicated both his own problem of personal relationships to the group along with helping the group set up its own problems for solution.

(b) Hugh Perkins,[8] using Withall's instrument plus additional categories of his own, analyzed fifteen thousand statements made in three leader-centered and three group-centered study groups in Prescott's Child Study Program. His analysis showed that in both kinds of groups two kinds of problems were continuously

[6] Thelen, H. A. "Social Environment and Problem Solving" *Progressive Education*, Vol. 27, No. 5, March, 1950.

[7] Withall, John. "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms." Unpublished Ph.D. Dissertation, University of Chicago, September, 1948.

[8] Perkins, Hugh. "The Effects of Social Emotional Climate and Curriculum on Group Learning of In-Service Teachers." Unpublished Ph.D. Dissertation, University of Chicago, September, 1949.

present: the problem of working together as a group and establishing satisfactory individual roles in the group and at the same time the problem of understanding parent-child-school relationships.

(c) In a class in educational evaluation given to nurses, a number of rather ambiguous statements about the usefulness of evaluation was read to the group. Each nurse was asked to indicate by means of a switch whether she was inclined to agree or disagree with the statement. A series of red and green lights visible to the group indicated what the vote was at any moment. It was found with respect to a fair proportion of the statements that if a number of both red and green lights went on first and then a large number of red lights built up, then some of the original green lights would be turned red. This, with supporting evidence, suggests that even in anonymous voting there is considerable pressure to identify with the group through expressing the same value as the others.

(d) In an experiment now in progress, Edelson[9] is studying changes in self concept resulting from deeply involving role-played situations. Here the two types of problems reveal themselves clearly. In one scene, for example, the subject plays the part of a star reporter being reprimanded for not getting his copy in on time. The city editor is a warm sympathetic fellow. The evidence is fairly conclusive in showing that the subject was deeply involved in the problems engendered in him by the very real warmth of the "Managing Editor" but he felt much less involved and in fact denied the unreal social relationship problem of the star reporter.

The implications of these experiences are clear. Group experience contains both the inter-personal and membership problems as well as the more objective social achievement problems. A class may be directing most of its energies into solving its problems of relationship with the teacher, using the lesson material as a content for an off-target approach to this more demanding problem of personal relationship. Or, on the other hand, the class may have, for the time being at least, solved its own membership problems and thus be able to direct most of its energies to a highly meaningful attack on achievement problems. The need for recognizing the continual existence of both types of problems and for working out with the class satisfactory methods of solving both, is clear.[10]

2. The principle that the potency for the pupil of the classroom group

[9] Edelson, Marshall. *Application of Q-Technique to the Study of the Self-Concept.* Research now in progress.

[10] For a much fuller discussion of the implications of this principle, see Thelen, H. A., and Tyler, R. W. "Implications for Improving Instruction in the High School." Chapter 12, Forty-Ninth Yearbook: Part I *Learning and Instruction.* National Society for the Study of Education.

depends upon the extent to which it enables him to meet his needs, assumes that a classroom in which students cannot meet their needs is ineffective in influencing him. The principle is probably not accurate as applied to families in which children cannot meet their needs because such families often leave psychological scars which affect one's behavior for the rest of his life. Emphasis placed on the positive development of potency in the classroom, then, is based on the assumption that the students can easily render null and void the teacher's attempted influence if she is of no use to them. It is believed that for the most part this is true although there are certainly many instances of tyrannical teachers who leave their marks permanently.

By and large, this principle is readily seen in operation in summer workshops and in any situation where people bring their own home problems for solution to an artificially produced freer environment.

(a) At the National Training Laboratory workshop at Bethel, Maine each summer, one sees the development of involvement of each individual in his training group and a gradual internalization of the group's control system as a potent set of values which will affect his behavior subsequently. The first source of this potency is in the very real problem of each person to find his place in the group. This is an immediate, compelling, emotional need and the learning involved probably makes a difference later. But the major development of potency in the groups comes about at the time when the individual begins to perceive that what he is learning at the workshop offers substantially increased possibilities for effective operation at home. Reports from delegates some months after returning home indicate that in many cases the group at Bethel has become internalized as an imaginal audience present in the person's mind as he works on his real home problems.

(b) The development of potency of the group over the individual depends a great deal upon his perception of himself as a member of the group. One is reminded of the quip that "A nation is a group of people who regard themselves as a nation." One of the important perceptions required is that people perceive the group as one which can be of use to them. The natural leadership of any group or classroom can be used very effectively at times to help the other members of the group gain this perception. One of the most productive training sessions in our experience was held with some thirty directors of training in industrial establishments. It was known that these gentlemen would probably be strongly resistant to "human relations" training because the acknowledgment of need for such training would require their admission of inadequacies in this area of operation. This diagnosis was confirmed in a pre-conference meeting with the natural leadership of the group. This was an extremely stormy

session which degenerated at a number of points into mutual name calling. But the leaders finally became convinced of the intentions of the Laboratory Staff planning the program. The conference program was started off by asking these natural leaders to interpret to the group what this training conference was all about. The leaders came through nobly and one of them began his comments with the admonition "Listen you b-----ds, you guys think this is all a lot of baloney, but you're going to see. You'd better pay attention....."

(c) The group that wants to go on meeting "no matter what" is further evidence of the fact that groups in which students can meet their needs effectively are not relinquished easily. One such group which had been assembled for the purpose of receiving training in group operation, continued to meet for an additional six months. By this time the range of needs which could be met had extended into the strictly inter-personal area and although the group identification continued, the rationale for being a group no longer existed. The group, internalized as a group, however, continues to exert influence on the behaviors of the former members.

(d) The fact that in meeting his social needs, one must refer his behavior to a potent group can on occasion lead to the construction of imaginary fantasy groups for the purpose. This is clearly revealed in the play of children in which imaginary brothers may be created and reacted to as if they were really present in a wide variety of everyday situations. By such means the needs which many children meet through actual close peer relationships, can be met to some extent when peers are unavailable.

(e) Direct evidence of the potency effect was obtained in an informal experiment set up for the purpose. In this experiment, which involved role-playing, Jean was asked to resist the suggestion made by Paul that she join with the other neighbors in their housing unit to spend Saturday morning cleaning up the grounds. In the first playing of the scene, Jean resisted through citing such things as her lack of time, her feeling that it wouldn't do any good, her general distaste of picking up other peoples' trash, and the like. Jean ended by avoiding having to give in to persuasion by fleeing from the scene and slamming the door. In an interview following this scene, the experimenter attempted to build in Jean's mind a highly potent imaginal audience which she would perceive as strongly disapproving of the notion that she should engage in the clean-up campaign. Thus giving in would have the meaning to her of being disloyal to this group. Since there was no such group actually present in Jean's awareness, a plausible theory was built through which she could perceive

that she would be letting down her family if she engaged in a cleanup. In the replaying of the scene, Jean resisted very successfully, was undisturbed by insinuations that she was self-centered, and she left the high-minded change agent perspiring. The point here was that in Jean's perception and feeling it was much more important to keep her membership in the family (even though the family wasn't there and didn't know anything about it) than to engage in the relatively arduous and unrewarding job of picking up trash.

The implications of this principle appear to be that teachers who wish the learnings of their classroom to have a lasting value will help students gain the perception that a wide range of needs can be met in the classroom and then will see to it that opportunities are available for this purpose. They will make use of planning committees organized from the natural leaders of the group and will engage in many behaviors designed to clarify for the students the possibilities in the situation. It is important to accept the fact that much of the resistance encountered in trying to deal with pupils may come from the fact that in some way the teacher is threatening their membership in other very potent groups. Asking students to inform on each other, for example, is a case in point. Three ways to meet this kind of resistance are first, put no pressure on at all but enforce the necessary classroom regulations, and rely on the fact that as the pupils discover they can meet their needs in the classroom group it will develop a potency of its own. This of course will not work if there is no opportunity for the students to meet their needs. Second, discuss with the students the sphere of application and the purposes of the classroom work so that they can see that the classroom group does not need to overlap with other groups which are potent. Third, in effect, include the classroom group in the student's mind within a group already potent for him, as, for example, in the familiar situation of the primary teacher accepting and playing in many respects the mother role. In a sense this makes the classroom an extension of the family group.

3. Learning to meet needs effectively is basically the problem of learning the experimental method through applying it to real, personally-involving situations. This principle is the core idea of most progressive education. The essence of the experimental method is the assessment of the situation followed by the making of choices, carrying them through, and appraising the consequences. Supportive conditions for learning the experimental method must include: the problem to be solved is important to the students solving it, and there is considerable opportunity to express and reflect, not only upon the cause and effect relationships demonstrated, but also upon the characteristics of experimentation *per se*.

It is the first of these conditions, namely, that the problem be meaningful, which most often vitiates the attempt to apply the principle. The difficulty often lies in the failure to bring together the institutional and psychological dimensions of meaning. Thus a very common approach is to tell

the class that they shall be completely responsible for their own learning, that whatever they get out of it will be whatever they put into it, and that they must together tackle the problem of learning such and such a unit. The other approach is commonly exemplified in practically the opposite kind of statement and is well characterized in the joke about the boy who asked his teacher, "Do we have to do what we want to today?" It is fairly clear that to the student whatever "taking responsibility as a group" means must seem positive and desirable. He must see that in this process he will have the opportunity to meet a variety of pressing needs. In general this perception develops fairly slowly, if at all, and initial sessions are devoted by the class to trying to find out what the teacher really wants. The other approach may get nowhere because what the student says he wants may have very little to do with need-meeting. The only things he can point out are likely to be things that are either impossible—in which case he must be either told or allowed to become very frustrated—or are things that he has already done successfully and which therefore do not represent challenges for him. In the former case rejection of the class should be built up, and in the latter case the only reward will be that other students congratulate him; and this is unlikely because they will be too preoccupied with their own anxieties over what to do next to be very appreciative of other peoples' successes.

The conditions for utilizing this principle are divided up and discussed in the other parts of this section.

4. The structuring through planning of experience provides goals and limits. Within these limits there should be complete freedom for experimentation. Planning is complete when a student is able to visualize the first several steps of action and to anticipate the character of the remaining steps to the goal. He must also have clearly in mind the criteria for recognizing, during action, whether the action is achieving results. During the development of visualized action plans, there needs to be considerable "reality testing" designed to appraise what kinds of action will be feasible within the limitations of the classroom. This may be stated in other language as the attempt to discover what range of choices are open to the student and, of these, which ones are essential for him to make.[11] The concept of freedom for experimentation within limits refers to the provision for means of dealing with anxiety and doubt and aggression which are frequently by-products of efforts to take action. In general the teacher must (be and) be seen as supportive, non-punitive, and friendly. Behavior which expresses these attitudes most beneficially is probably participation rather than holding back, efforts to make all judgments in terms of public criteria whose reasonableness the student accepts, and skill in helping the student re-assess and re-plan when his anxieties become pronounced.

(a) In one experimental class, the art teacher gave the children "freedom" to express themselves in any way they wished to.

[11] "Choice and Consequence." Report of Faculty Committee Number 9, University of Chicago Laboratory School, 1947, Mimeographed.

The students were on the whole familiar with the range of action possibilities and some of the students fell with gusto into the art work. There were a number of other students however who didn't see any point in artistic production and could not make up their minds among the various available techniques because no choice made any sense to them. However, the expectancy that they would do art work remained and the students met this conflict between wish and demand by eating their lunch out in the hall during the art period. The teacher eventually placed eating lunch beyond the limits of the situation and at the same time gave the students considerable support through verbalizing that it is a hard job to make up one's mind among so many choices. He then proceeded to help them explore what sorts of problems they had and was able to give considerable ingenious guidance in finding art activities which met some of their expressive needs in connection with these problems. It could be said that because of the frustration of making a decision there was no freedom of choice; but once the teacher made clear the criteria for choice, then choice could be easily made and the students could go to work.

(b) In another experimental class, in social studies, the teacher stated the name of the unit, and that it would last for six weeks. He then told the class to go ahead and plan. His response to all suggestions was non-committal. By the end of two weeks under this kind of treatment, the class was apathetic and hostile and had not yet arrived at any plan. The plan they finally did arrive at was a study of laws in the community, which, because of the clarity of the problem and procedures involved, represented an escape from the ambiguity of the situation whose limits they were unable to discover. The problem here was one of neither helping set the limits nor helping find the criteria by which limits could be set up.

5. Anxiety over internalized interpersonal (or group membership conflict) takes priority over and interferes with motivation to learn lesson content. This is an extremely important principle whose operation can be seen through many of the examples given in other parts of this section. To a large extent the proceeding section is devoted to the exposition of this principle. The application of this principle and some of its consequences may become clearer in the following illustrations:

(a) It was deduced from this principle that students who are unable to make adequate adjustment to their classmates would be less able to internalize the content of the course because they would of necessity be devoting a great deal of energy (whether they "knew" it or not) to trying to work out their problems of interpersonal relationship. By internalization, we did not mean rote

learning. Acquiescent rote learning is one of the devices used by maladjusted students in an effort to at least solve the authority relationship with the teacher. By internalization was meant such things as ability to generalize content of the course beyond the situations discussed in the course, and ability to reformulate ideas to create novel solutions in new situations.

In the experiment, teachers were asked to select the six most "maladjusted" and the six most "well-adjusted" students in an eighth grade math class. The students were then interviewed. The problem of the interview was for each to look at a series of five pictures carefully selected for the purpose and tell what mathematical ideas they could apply to each picture. The content of their comments on the pictures was recorded and could be analyzed for the purpose of characterizing the extent of internalization of ideas known to have been taught in the math class and unlikely to be learned from other sources. The difficulty of content analysis makes the results inconclusive as a scientific demonstration but independent analyses indicate a tendency toward greater freedom of use of the material by the students whose adjustment was more satisfactory. The most striking difference is in the need to refer the picture situation to the classroom situation so that cues from the classroom group could be used. This of course was done by the maladjusted students. Thus the two patterns with reference to a picture of the country store can be illustrated by the differences in the following comments: (a) "That's a store. (pause) and if I were running the store the main thing I'd want to do is make profit."; (b) "That's a store. (pause) Well, we studied stores three weeks ago, and Miss W. told us that the storekeeper is most interested in making a profit." This experiment is cited in some detail because if and when we can lick the technical problems involved, such experimentation will provide the most conclusive possible test of theory of internalization.

(b) It was felt that the arousal of interpersonal anxiety with its possible blocking effects would have to be stimulated by objective cues in the situation. An experimental seminar therefore tried the experiment of having the same group carry on discussions of two fairly similar problems. In one of the discussions each member of the group was blindfolded and in the other not. The hypothesis in general was that the problem solving would be better in the blindfolded group because there would be fewer cues which could arouse interpersonal anxiety. (Of course it would also be possible for insecurities to be greater when one cannot keep in physical touch with the environment.) There were about the same number of irrelevant statements in both

situations. There were fewer statements which were problem oriented but not helpful in the blindfolded group and there were more statements that were problem oriented and helpful in the blindfolded group. Considering the small samples and lack of precision of the exploratory research as here conducted we did not, however, obtain statistically significant differences.

(c) Another way in which the general principle could be tested would be by helping a group get into a good discussion and then introducing remarks with a highly personal flavor. Such remarks would be expected to produce anxiety in the mind of the person to whom they were addressed as well as arousing anxieties in the others through the mobilization of many of their own latent insecurities and doubts about themselves. The group discussion should show the need to attack or escape, and most typically what is found is a movement of the discussion from more or less action orientation to a highly academic or even philosophical debate. In other words, by and large, a group in which there is much interpersonal insecurity and many process problems finds it extremely difficult to plan action (except under the special conditions of frustration, in which anything to do is better than nothing).

The use of "feedback" over a period of years at the National Training Laboratory Summer Session has pointed over and over to the conclusion that statements to the group by an observer must avoid being evaluative or interpretative but must simply stick to purely objective statements which report the feelings of the observer or simple facts such as how many people have participated in the last half hour. If interpretations or evaluations are attempted by the leader of the group, who is seen as an authority figure, the results can, under certain conditions (as when the group is not ready for such statements), be completely disastrous. In one group of adults, three statements by the leader of the sort: "I notice that as Joe attempted to answer Mary's question he looked at the floor all the time. I wonder if he was afraid to establish communication with Mary." drove the group from an action planning activity into a high-level philosophical discussion in which the rules of debate were clearer and the content was remote from personality.

The disastrous effects of such interpersonal anxiety-arousing showed up most clearly in a group dynamics training group in which such comments were made from time to time during the first two-thirds of the course. By the end of that time, when the leaders wanted to help the group move from interpersonal relations to objective social problem solving, the group was almost entirely unable to make the transition. They had become so

disorganized and preoccupied with their own roles that they were unable to leave such obsessions for the sake of becoming a problem-centered objective group.

(d) John Glidewell[12] set up a role playing situation in which the subject was to serve as leader of a discussion for the purpose of reaching conclusions about a topic which he had chosen. The other four members participating in the discussion had been carefully trained in light of clinical data about the subject. Thus with one subject, the other four role players were trained to play the roles of "seductive female," "problem oriented female," "dominant male," and "submissive male." Each of the role players was trained to make statements, from time to time, in which he, attacked, remained neutral, or supported the subject. There were two observer teams, one studying clinical evidence of discomfort and tension in the subject, and the other studying his leadership style to see at what points it became effective or broke down. The various stimulus statements and observations were all carefully synchronized. Scientifically the conclusions were interesting because they bore out predictions from careful clinical study of the subject. But for our purposes the point to note is that the subject responded quite differently to each of the four role players and that the evidence of this was more clearly obtained from his difficulties of leading the discussion than from the observations of flushing, squirming, etc. The significance of the findings is further increased by the fact that all of the statements were made well within the boundaries of good taste and probable occurrence in socially-acceptable conversation.

The fact that leaders and teachers respond with different degrees of effectiveness to different members of their class or group has been observed too often to require comment. The fact that this disturbance, however, produces actually quite obvious differences in effectiveness of leadership and that it therefore has significance through its possible effect on the problem solving of the group, is what we wish to point out here. The minimal cues presented by the role players could hardly do more than remind the subject of experiences with other people from other groups in the past. The subject's difficulties would be interpreted as evidence of conflict between the present and presumably past real or imaginary groups.

(e) Ned Flanders[13] placed his subjects, tenth grade children, in learning situations which differed in terms of anxiety-arousing

[12] Glidewell, John C. *Presdiction of Some Aspects of Group Leadership Behavior.* Unpublished M.A. Thesis, Department of Psychology, University of Chicago, September, 1949.

[13] Flanders, Ned Allen. *Personal-Social Anxiety as a Factor in Experimental Learning Situations.* Unpublished Ph.D. Dissertation, Department of Education, University of Chicago, September, 1949.

behavior of the experimental teacher. In one situation the teacher produced a good "group-centered" climate and in the other situation a rather "teacher-centered" autocratic climate. The "autocratic climate" was actually considerably less autocratic than many that we have observed in actual classrooms. The "group-centered" climate was considerably more so than any we have yet seen in practice. The data treated included: what the student and teacher said, pulse rate and galvanic skin resistance of the subject, the continuous feeling tone indicated by the subject through pushing a lever and ability to utilize the principles and recall them at a time two weeks later. The findings conclusively bore out specific predictions about differences in tension produced in the student by different sorts of teacher statements, and also predictions about the differences in the amount of recall of principles learned under the two climates. This experiment is regarded as conclusive.

Thus from a great variety of situations including many not described above, the principle seems to be supported. In general, when a situation produces anxiety over one's role, including such things as his feeling of self-confidence, his feeling of ability to contribute, and his feeling of possibility of receiving reward, the group member must devote his major energies to working (perhaps quite fruitlessly) on these problems. The subject matter to be learned or the objective problem to be solved are dealt with but only as a means of dealing with the personal problem. There may well be just as much learning of such things as multiplication tables, historical facts, etc.; but there will be much more likelihood that some students, at least, will for the rest of their lives try to avoid problems which require the skills learned under the duress of anxiety in groups which were unable to solve these process problems. An adult, for example, may not work so hard to get out of taking square root because taking square root is difficult so much as because in the process of taking square root too many anxieties present in the group at the time he was trying to learn square root are aroused.[14]

6. The experiences and demands of a particular classroom represent but a fraction of the students' involvement and interest in living. The broad twenty-four hours a day experiencing of students influences the quality of classroom experience and is influenced by it. This is another way of stating the fact that in every situation there is overlapping potency of other groups. The one situation under which this is sometimes argued to be insignificant

[14] James Singletary in a Ph.D. Research currently going forward, is exploring a possible ramification of this principle: that the problem orientedness of individual teachers in school faculties will be associated with degrees of perceptual distortion of the school situation as reinforced by their membership in sub-groups and cliques in the faculty.

in effect is when an extremely autocratic teacher is holding the class to completely meaningless tasks. Cognitively the students interactions are at an irreal level of what might be called forced fantasy. Actually, however, at the real level, the student is forced to submit or withdraw from the situation. Psychological withdrawal with the usual symptoms of lack of motivation and communication is most likely. This is the sort of situation in which the extent of the problem and the preoccupation with role depends upon the other groups the student has internalized at high potency. Students who are used to having to submit to adults' capricious authority may have no problems aroused—at least at a level of awareness—and these will initially get along better than students who are used to more cooperative activity. On the other hand, the latter kind of student may have learned how to adjust to the situation and may have within him the resources to make the adjustment and then go on to the problem itself. But under conditions of intrinsic meaninglessness of the problems, i.e., inability of the student to perceive them as providing any continuity of experience, there is hardly any motivation for making the adjustment.

One common way of putting this principle is simply to say that people nearly always come into a new situation with a considerable body of expectancies as to the role they and others will play in the situation and failure of the situation to meet these expectancies presents the problem to the student of changing his expectancies. What we have added is that this is a fairly considerable problem because the expectancies developed and were reinforced by "successful" (sometimes neurotic) membership experience in groups; the process of changing these expectancies, therefore, is the problem of dealing with doubts cast on the success of the previous experience.

(a) In a seminar-conducted experiment, groups of eight tenth grade students were presented with meaningful problems in connection with their student activities in the school. They were asked to discuss the problems and make recommendations for their solution. Two discussions of each group were studied. In the first discussion, the group proceeded on its own with no officially appointed leader. In the second discussion the experimenter, who had been studying the missing roles in the group, joined the discussion for the purpose of supplying these missing roles (making summaries, clarifying individual points of view, and the like). This resulted in more productive discussion in one of the groups which had had considerable difficulty without any apparent natural leadership having emerged. In another group, however, a strong natural leadership emerged in the person of one of the boys, and the investigator decided that he was unable to see any missing roles that he could supply. Therefore he simply sat in the group without saying anything. But in this situation the natural leadership of the group was completely suppressed. The investigator was an adult on the

university staff, and the most reasonable interpretation appears to be that the students expected that when he was in their group he would automatically be their leader. They therefore sat back waiting for him to assume his leadership role. The expectancy was so strong that when he refused to make any motions in this direction, the group was still unable to adjust to the situation and carry on. This would appear to be a clear case of expectancy about adult roles having been built up in other situations of daily living or at least in other classroom situations and now interfering with the effective participation which the students had demonstrated they were capable of.

Similar findings are familiar to all teachers who have tried to move from "traditional" methods of teaching to teaching based on propositions such as that of principle 3 above.

This sort of observation raises a very fundamental dilemma for teachers who wish to use methods of teaching of a sort not within the socially reinforced experience of the students. One can "start with the pupils where they are" which would mean in this case beginning in a fairly "traditional authoritarian" manner and then relaxing to the newer methods as rapidly as could be done without causing undue anxiety and blockage. The other procedure is to institute as far as possible the desired methodology on the first day of the class and then expect and deal with adjustment problems of the group in internalizing the new methods. (This latter is seen in some institutional therapy.) Both extremes may have severe disadvantages. The trouble with the former extreme is that it is extremely difficult to relinquish autocratic methods once they are started because autocracy in a sense feeds upon itself and once institutionalized it is difficult to relax. What usually happens when this alternative is followed is that psychologically the situation remains as autocratic as ever but there is an agreement between teachers and students to look upon it and talk about it in other languages. This is certainly performing a very dubious kind of service to the understanding of democracy. The second alternative, of instituting the desired methods right from the start, arouses all the anxieties of the teacher which are usually suppressed or easily handled in the more traditional type of relationship with students. A teacher for example must be very secure to be able to face the prospect that students may fail in some chosen activity, or that the activity may get "out of hand," or that the students will feel a lack of adequate progress in the subject. Aside from this factor, there may be real shock similar to that often found in group dynamics training situations, and most of us don't have much confidence in our ability to deal with the consequences of psychological shock.[15]

[15] Thelen, H. A. "Resistance to Change of Teaching Methods" *Progressive Education*. May, 1949. Rehage, Kenneth J. "A Comparison of Pupil-Teacher Planning and Teacher Directed Procedures in Eighth Grade Social Studies Classes." Unpublished Ph.D. dissertation. University of Chicago, December, 1948.

In all of these situations of violated expectancy, a very important helpful element in the situation is the ability of the leader to be self-accepting rather than defensive, because this enables the class then to bring out its own anxieties without fear of punishment.

(b) Probably an important way in which this perception of leader non-defensive, self-acceptance can be communicated to the group is through the leader behavior when he gets into a tight spot or makes a mistake. On three different occasions in large conference sessions in which there was considerable tension, we have seen the entire meeting "loosen up," with great increase of participation and freedom of expression of feeling through simple ineptnesses of the leader. In one case he stumbled over a microphone cord, in another case he told the group it had a free choice and then immediately gave away the fact that he had a strong preference for one of the alternatives, and in the third he asked a very confusing question which one of the audience threw back at him. In all three cases the leader's lack of embarrassment and ability to accept these things as jokes on himself rather than as serious challenges to his skill and intentions made a vast difference in the progress of the group. Such incidents seem to shift the situation out from under the potency of authoritarian imaginal audiences into the potency of more relaxed groups; and to result in activation of membership roles appropriate to the latter.

7. A democratically run classroom group provides reinforcement of the culturally desirable sides of student ambivalences in conflict situations. This statement asserts that in democracy one has within him the means for dealing with his own conflicts in a constructive way which tends toward desirable ideals. Any proper treatment of this assertion would require at least a full length book with adequate definition of what we consider to be the essential characteristics of democracy as a political system followed by considerable social-psychological explanations. For our purposes here, we would present the argument as follows: Most groups at the present time have considerable difficulty in working out their problems of communication and membership role, and in reducing the anxieties connected with these problems. Typically they are likely to avoid anxieties by moving to a highly verbal abstract level of discussion. This type of escape, however, engenders guilt feelings in the group and means must be found for bolstering their ego and reassuring themselves. A very easy and commonly employed means is to discuss and agree upon high-sounding ideals. Having committed themselves in this way at the verbal level, the group now faces the problem of bringing its action level of behavior into correspondence with this verbal level. Because the verbalizations are usually ambiguous and hard to translate into operational language, the group now has added to all of its unsolved process problems a set of very difficult demands based on the need for consistency between

verbal and action levels. (Anticipation of this problem perhaps operates frequently to cause the group to prolong its discussion of ideals interminably.) Many groups break up at this point, and give any one of a variety of rationalizations for why they can go no further.

Assuming the group does not break up, observation suggests that it may now tackle the problem with considerable difficulty and frustration at times or it may settle into a non-communicative period of experience-swapping in which, through what is supposed to be reality testing, the members actually attempt to tell themselves that it is all right to deny the problem. The typical conclusion is that it is impractical and unfeasible to try to bring action into line with the stated ideals, and some delaying tactic such as appointing a working committee to gather data is likely to be employed. Assuming, however, that the group does attempt to tackle the problem, for success it will have to meet a whole host of conditions. These are the conditions for "good" group operation and include such matters as establishing adequate communication of feeling and development of cohesiveness; dealing with specific real problems so that data can be used to test implications either of membership role definition or of the belief system; and providing for extensive psyche-group experience. (See preceding section.)

Under present conditions of wide-spread ineptness in the skills of social problem-solving, the first step of escaping into high-sounding ideals seems entirely reasonable. (The usual plea of the autocrat that autocracy is justified as a means for avoiding this first step is understandable. We, too, would like to avoid the usual time waste and escape quality of this first step. Our objections to autocracy would be more in terms of the fact that decisions made in such a climate do not usually result in creative, self-directive, action by individuals so that problems don't get solved.) As far as this first step is concerned one would think of democracy as simply the enabling of a group to engage in behavior which is responsive to its needs. The generalization that this first step commonly occurs is well supported in practically all conferences and most faculty actions. It should be noted that this first step is not inevitable but is simply the result of ineptness.

Carrying through the second step of bringing about consistent integration between verbal and action levels requires group procedures for dealing with individual anxieties. The basic condition for satisfying this requirement is an internalized attitude of respect for the rights of each individual to have psychological security; and this in turn, of course, means satisfying living. However democracy is defined, this concept will be found central in the definition.

(a) The demonstration of the first part of the mechanism, relating interpersonal and membership anxiety to a group escape into discussion and acceptance of abstract highly-valued ideals, is quite clearly made in the following incident: A group of about 125 women, all members of the same minority group, came

together to consider the problem of discrimination of all sorts as directed against all minorities. The meeting began with a panel discussion through which was identified a variety of areas such as education, employment, and housing, in which discrimination is often practiced. The total group was then broken into much smaller buzz groups to come out with answers to the very definitely and strongly stated question, "What can each of us do about discrimination and prejudice."

Needless to say not one of the twenty buzz groups tackled this question. They used two escape devices: first they projected all the discussion in terms of another minority group (even though the panel discussion had been centered almost entirely around the problems of discrimination against their own group) and second, they spent a great deal of time swapping anecdotes for the purpose of reassuring themselves and others that they were not prejudiced against this minority group. When the master of ceremonies, who was also perceived as an expert in the field of inter-group relations, visited each group, at least one member in ten of the groups turned to him for reassurance that some of their own personal prejudices were all right. This was done through private side conversation inaugurated by one member at a time while the rest of the group went on talking.

When the buzz groups were reconvened into the total meeting, after about twenty minutes, the group still was practically incapable of dealing with visualized action possibilities (although one or two individuals contributed such suggestions). The group product was instead a list of twelve points such as "teach children not to discriminate," "find ways of bringing various minority groups together for discussion of mutual problems," and the like. The group product could be characterized as a rather good list of major problems which a person with high ideals would think need to be solved. At no time, however, with the exceptions noted above, was there any suggestion that anybody in the room could himself take any action whatever with respect to any of these problems. There was general satisfaction with this product, and there is no doubt that the experience gave individuals a chance to become much more objectively aware, although in an "off-target" way, of some of their own attitudes and problems.[16] The reinforcement by the group of the socially-valued sides of each individual's ambivalence anent the discrimination question seems to have been well demonstrated.

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[16] Main, Tom, and Nyswander, Marie. "Some Observations on the Third National Training Laboratory in Group Development" (mimeographed). Department of Adult Education, NEA, 1201 Sixteenth Street, N. W., Washington 6, D. C.

(b) An example of much more effective reinforcement through group action of the culturally-valued side of individual ambivalence may be found in some of the block meetings sponsored by a community organization which is concerned with maintaining community standards and integrating the minority groups, particularly Negroes, into the life of the community. The block meeting after introductions all round, fell into a pattern of quiet side conversations. In these conversations, many anti-Negro attitudes were expressed. (One old lady told about giving a Negro on the block a "dirty" look.) The meeting was called to order with the statement that we were here to see what sorts of things we felt constituted problems for us on the block. The Negro "question" immediately arose, and there was much general discussion of the fact that Negroes were moving into the community. Many of the comments at this point, although sounding objective, expressed the feeling that this was bad.

The group was specifically prevented from moving into a debate on issues by the simple statement that we probably all had different feelings on this subject, and that we should probably accept this as true and then go on to ask what we could do about the real problems we faced. It was pointed out that a new family of Negroes had bought and moved into the apartment across the street, and that since we were not likely to form a pitchfork mob, realistically our alternatives consisted of either ignoring them or of being friendly with them as a first step towards communication and integration. The discussion at this point was fairly sober, and it was quite readily seen that it would be desirable to establish communication, to describe the neighbors' concern to avoid overcrowding of buildings, and to ask cooperation, first in agreeing with this position, and second in helping us prevent overcrowding by others. Accordingly two neighbors were selected to make this initial contact and to extend the hand of friendship and invite the new neighbors to join with the rest of the block in this program. It was recognized that the people to go calling should be ones who would not be uncomfortable in the situation. Two other actions were decided upon and subsequently carried out.

The second situation suggests the fact that in a group containing all shades of prejudice, effective action can still be obtained, first by accepting the prejudice and not driving people into defensive positions, and second, by selecting and dealing with problems which contain many elements of objective (not entirely social) reality, so that proposed action can be tested directly.

These two incidents illustrate clearly the essential differences between

"do-democracy" and "talk-democracy" as developed by de Huszar.[17] The differences in learning resulting from these two types of group operation, are suggested by the fact that four of the neighbors in the second situation, who had been on the verge of selling their homes as a way of dealing with their fear of anxiety over the presence of Negroes, declared that now that they realized we were all together in this, they no longer felt any need to sell their homes. Thus as a learning by-product, "white panic" in the block was (temporarily at least) stopped.

(c) The various elements of this principle are exemplified in the policies used throughout the operation of the Community Conference mentioned above:

a. Individuals work in teams, not alone.
b. Friends call on friends to involve their participation.
c. Meetings of neighbors are organized in "natural" units on the block—a 6-flat apartment, a row of houses.
d. Immediate, real problems are identified in the neighborhood units and action taken. Example: making new neighbors welcome and helping them participate; agreeing not to run away when minority group people move in; setting occupancy standards on the block; identifying law violations and discriminatory practices to be reported to other committees, etc. Global discussion of emotional issues is avoided; we think together by taking action together on real immediate problems.
e. Leadership teams meet together regularly to share experiences, train themselves, develop realistic policies, and make recommendations to the Conference.
f. The problems identified and worked on are the ones the group is "ready" to deal with objectively. We must find out the relevant facts and get the ideas of all the people involved. Responsibility must be shared, and results reported back to all concerned.
g. Resource people among the neighbors and in the conference leadership are identified and used.
h. No specific solution to a particular problem is advocated in advance. There is no selling. The method of friendly, objective, group thinking is used—mistakes are analyzed so we'll do better next time.[18]

8. Assessment of group affect and analysis of the problems it is symptomatic of provides the major mechanism for steering the classroom group. Not only must reconnaisance and planning be directed toward the selection

[17] de Huszar, George B. *Practical Applications of Democracy*. New York: Harper and Brothers, 1945.

[18] Progress report to members of the Hyde Park-Kenwood Community Conference. April 10, 1950 (mimeographed) Obtainable from author.

and solution of achievement tasks, but the need for planning, the way planning is done, and some of the problems to be taken account of in planning are all indicated by the state of feeling in the group.

In terms of the feelings of the group, there is probably an appropriate time for the various kinds of activities guided by teachers. Thus the most useful time for a summary may well be when the group is slightly discouraged because its progress seems too slow as a result of confusion over its direction and therefore rate of reward. An objectively-made summary at this point will often restore the sense of past accomplishment as well as help make clear the direction the group should be moving. Further planning is frequently indicated at the point when the group begins to anticipate frustration. If one waits until the group actually is blocked and frustrated, the need is not for more planning but for a type of psyche experience which enables the student to reduce his anxieties aroused by feeling of failure and guilt. The time for suggesting resource materials and handing out lists of books and references is probably after the students have assessed their interests, both individually and collectively, in working on a particular problem. Before such an assessment has been conducted, a list of resources may be seen as a threat of work, and after the group is well started but has bogged down, a list of resources may be seen as a last-ditch effect to save the situation; and it is by then too late to plan the most intelligent use of the resources. The time for making plans for a six-week's unit is probably not at the very beginning of the unit just after a pep talk or a movie to gain interest, but rather following some first-hand experience and exploration so that the students feel confident that they really know what their plans involve by way of demands on them. The time for giving a test is when the group feels that an assessment of its own strengths and weaknesses of skill or understanding would help them diagnose their own readiness for particular types of further activity. The time for engaging in a laboratory experiment is probably when the group feels it has a fairly clear set of ideas at the verbal level, but is honestly perplexed as to what they mean in terms of observable phenomena. The time for doing role-playing to help the group assess its own problems of procedure is when the group is aware that it has problems which are blocking efficient operation, but at the same time feels too much threatened by direct discussion of them. The time when the group needs to do a rigorous job of outlining and organizing is after it has had a wide range of experiences and has been pushed by the need for closure into efforts at generalization and explanation.

The art of teaching probably focuses more around the question of the timing of particular activities as a response to felt needs of the group than around such things as ingenuity in dreaming up five new ways to present the same unit, or skill in sugarcoating the problems in a workbook, or a flair for persuasion, or the building up of a phony cohesiveness based on an unrealistic group self-image.

In our loose usage of the word "need" we sometimes forget that a need

represents a state of psychological necessity. Necessity is indicated through expressive behavior. A required condition for such expression is freedom of expression. This in turn means a type of climate and ease of communication with broader limits than those customarily found in classrooms. There seems to be in our culture something of a taboo against the matter-of-fact reporting of feeling. How often does a student come up with "At the present moment I feel uncomfortable, but I don't know why," or "Now I think we're beginning to get someplace," or "I find this discussion very depressing," or "I'm so bored I don't know what to do with myself"? Such expressions of feeling, when made under certain conditions, become extremely valuable data to the class. Conditions under which such statements are not helpful are that they are actually used as a means of attacking the group or of calling attention to oneself, or of serving some other ulterior motive. Our first reaction to such statements in the usual group is that they are motivated by ulterior considerations. But it is possible for a group to see the need for such statements and to learn to make them and utilize them effectively as data.

(a) During a recent conference session with 280 classroom teachers, the purpose was to evaluate the extent to which the preceding days work of the conference had reached its goals. The consultant staff had made its report and was answering questions from the floor. At one point, one of the teachers expressed quite sincerely some feelings about the possible importance of the conference to the field. These were new perceptions to the group, and the group saw itself in a new and highly satisfying light. There was a short gasp, and a noticeable pause. The consultant on the platform said "I don't know why, but I feel very happy, just like clapping." Without any more ado, he began to clap. Everybody else joined in.

For the next ten minutes the pattern of interaction was entirely different, with members of the audience standing up and asking for a show of hands on a variety of questions such as "How many of the teachers present were given time off to attend this conference?"

A plausible interpretation seems to be that this large number of teachers, assembled from nine states, had seen itself as a collection rather than as a group. They had not found common symbols of identification even though at deeper levels there was feeling of friendliness, cooperativeness and mutual respect. The clapping of hands was a means through which the teachers were able to share their feeling of success. This recognition of shared feeling was then followed by a series of questions which resulted in a fairly clear common picture of the position of this group in its own professional field. An important dimension in this rapidly put-together self-image of the group was the extent to which it could consider itself and its work accepted by ad-

ministrators and school boards, as expressed in the extent of their support of the conference.

(b) A small group of leaders of social organizations within one of the minority groups in the city embarked on a training program in group dynamics. It was evident from the beginning that the members of this group were acting on two diametrically opposed assumptions about the strategy of social action and the bases of security for individuals in the social scene. On the one hand, there was what might be called the "organizational" approach, in which power is reckoned by numbers of dues-paying members and there is a rigid and elaborate machinery of working committees set up to handle every situation. On the other hand, there was the "human relations" approach, in which power is seen to reside in the spontaneous acts of each individual with respect to each other.

For two meetings this training group seemed to be in continual conflict over their inability to recognize and resolve this problem. Recognition would be too threatening to all parties: it would not be easy for anyone to contemplate changing his position in this matter because each had achieved power in his organization through considerable effort. To bring this problem into the open would be to question the whole meaning of the concepts through which they had found security and status.

Accordingly, a role-playing scene was set up in which the elements of the conflict were dramatized in a very disguised situation. The members of the group "caught on" at some subconscious level almost immediately, but there was no compulsion on them to verbalize their awareness of the problem. During the discussion of the role-playing, however, the tenor of the remarks indicated consciousness of the problem, and, as the discussion progressed, the problem came more and more to the surface. Eventually it was explicitly expressed in a form which enabled further activities to test the assumptions invloved.

(c) In certain seminars in which the students cooperatively undertake a research project, there comes a time when exploratory discussion and hypothetical planning must give way to division of specific responsibility and action. The teacher recognizes this point as a rather crucial one because at the time of facing the need for action there is a mobilization of any unresolved doubts or anxieties hanging over them from the planning steps. Moreover, the ability of the group to move into action is also a clear-cut reality test of its motivation and need for the particular research experiences that will be involved.

The teacher has found from experience that at this particular point it is a good idea for him not to show up at class; and

he is usually astonished at the forward progress of the group in assigning responsibilities and getting started at that meeting.

The need of the group in this situation is to reinforce itself for action, and this means primarily working through the doubts and anxieties that exist in each individual's mind. One of the major anxieties seems to stem from not knowing whether other people feel the same way about the things one perceives to be obstacles. This doubt in itself constitutes a further obstacle because knowledge of the extent to which other people share one's perceptions about critical matters in the group is necessary for role-security. A second kind of need which is felt but difficult to express in the presence of the teacher is the need for emergence of leadership. It is reasonable to expect the planning phases to be guided by the teacher; but at the action phases, the group itself must take over and allow the teacher to step into the role of consultant. For the teacher to retain leadership during the action phases would place the students in the position of dependent hired hands, and this hardly jibes with the attractive concept of cooperative group research.

In summary, then, it seems clearly indicated that the teacher and class must recognize that their own feelings are part of the realities of the situation which must be taken into account; that they must strive to maintain a kind of climate in which reporting of one's feelings is possible (and this is no difficult task if such reporting persistently leads to desirable consequences in more intelligent and effective action). As suggested in the preceding chapter, genuine spontaneity provides the best possible route to self-knowledge, adjustment, and awareness of need. (It may perhaps be helpful to point out that genuine spontaneity produces self-expressive behaviors arising from the richness of one's internal life; one learns relatively quickly to distinguish such behaviors from witty, hostile or praising behaviors which hide the self and proceed predictably on cue almost as if they were conditioned reflexes.)

9. Learning will be most effective under proper operation of the Principle of Least Group Size. This principle deals with the concept that the most effective social organization of effort in the classroom will vary from task to task, and should be determined by careful consideration of the requirements of the learning problem and state of affairs in the group. The principle, which has been discussed in detail elsewhere,[19] may be stated "that for each learning problem, the class should be subdivided into the smallest size groups in which are represented at a functional level all the socialization and achievement skills required for the group to solve the problem." The fundamental

[19] Thelen, Herbert A. "Group Dynamics in Instruction: Principle of Least Group Size." *The School Review*, March, 1949.
Thelen, Herbert A. "Group Dynamics for the Classroom Teacher," in *Portfolio of Teaching Techniques*, Washington: Educator's Washington Dispatch, 1949.

theoretical principle here is that continuing motivation is essentially a matter of rate of reward of need-meeting. It is fairly clear that this is, on the whole, greatest when one can play an active rather than a passive part, and that therefore the teacher would do well to look for ways of maximizing the participation of each individual—provided through participation in the situation as set up in the class needs can be met.

In general, the smaller the group one is in, the more opportunity he has for participation (if the monopolizers can be muzzled through use of observers), but the participation will result in the reward of need meeting only if the group feels that it is making progress and only if the individual feels that his participation constitutes a contribution to that progress. Therefore care should be taken to see to it that the group has within it adequate resources for solving the problem, or that it has an adequate methodology for finding needed resources, or that it has sufficient skill and understanding to get itself out of frustration through further assessment and planning when the goals or means are seen to be inappropriate.

Usually individuals in the small group will be strongly motivated if they work in the expectation that a good job in the smaller group will gain recognition and approval in the class as a whole. For this perception and expectation to be possible, there must be understanding by all concerned of the way in which the working groups will supplement each other's efforts in helping the group as a whole find new directions or make more progress than would be possible if the class were not divided into sub-groups.

In a rigorous application of this principle, the major tasks of learning would be carried through in rather carefully composed smaller groups. The class as a whole would be perceived primarily as an administrative body whose functions are: (a) to develop needs for specific activities and learnings on the part of every class member, (b) to analyze the requirements of the learning for the purpose of forming sub-groups, and (c) to act as a clearing house for sub-group products and as an interpreter of overall progress.

> The principle worked out quite spontaneously in the case of a research seminar in which it was necessary to develop measuring techniques, to train certain people to play roles in the experiment, to provide administrative liason with the school in which the experiment was to be conducted. Working committees were formed to discharge these functions. From time to time, the entire seminar got together to review progress, to make suggestions to each other, and to redefine the level of aspiration in terms of what was seen to be realistically possible.
>
> It was soon found to everybody's amazement and disappointment that these total seminar meetings were very sober, difficult, and at times almost apathetic.
>
> The group considered a number of hypotheses to explain this, including: each working committee is unduly sensitive to criti-

cism, the committees are competing with each other, each committee feels guilty about lack of adequate progress, etc. Each of these hypotheses was discarded as not fitting the facts. The most reasonable explanation appears to be that the total seminar group had become primarily an administrative affair for the purpose of making decisions in which no alternative could be shown to be much better than any other, but which were necessitated by the group's need to proceed from a common basis of agreement (i.e. the group was primarily concerned with elements of social reality). The sub-groups on the other hand, were continually making decisions in which the alternatives could be assessed against probable events in the phenomena being studied (i.e. against elements of objective reality). As indicated in chapter I, under such conditions need-meeting of individuals could be much more effectively accomplished, and consequently the rewards of sub-committee work were greater.

The specific suggestions for applying the principle are: (a) Part of the planning of activity with the class should be concerned with the question: How many people need to work together? Thus the entire class must be together to make any final decision among a number of suggested alternative sub-units to be studied next; groups of perhaps four people would make most sense for designing a physics experiment to demonstrate the laws of the lever; pairs of students might be most useful for drilling each other in French vocabulary or the symbols for chemical elements; and students might best work as individuals to prepare summary outlines in which they attempt to organize the ideas of a unit just completed.

Each group must know what each other group is going to do, and there must be provision for the group as a whole to move ahead on the basis of the sub-committee work. Lengthy reports presented by each sub-committee are likely to be dull. Depending on the specific purposes, one may think of reporting back via a panel discussion in which each sub-group is represented; or the sub-committee reports could go to another committee for synthesis and combination into a proposed master plan; or each committee could take over the class and steer it through activities designed to enable the class to experience for itself relationships or feelings which the sub-committee believed were important; or it may be that the sub-committee work could be thought of as simply to prepare each individual to participate more effectively—as when sub-committees are used to explore feelings at the beginning of a unit. (The value of the sub-committee in this case is in its reinforcement of each individual.)

In summary the principle may be expected to work best under the following conditions: (a) control of the class in the hands of the class with limits clearly defined, (b) differentiation of individual participation according to individual self-determination, (c) demonstrable consequences of small group activity in group planning and decision, (d) social stimulation of individual learning.

In Conclusion

The preceding discussion represents the attempt to organize a variety of notions around a limited number of principles which, it is hoped, encompass the major dimensions of the classroom learning situation. These principles attempt to bridge between the preceding abstract conceptualization and the practical experience as sampled by the lettered paragraphs in this chapter. These principles are at the level of abstraction of policies, and may be of service in helping the teacher formulate classroom policy.

The illustrative examples come in many cases from situations outside the school classroom. Such illustrations are selected for their value in demonstrating the operation of the principle in question. There is no proof that classroom groups would necessarily act in accordance with the principle, but on the whole, the burden of proof should probably lie at the door of those who think it won't rather than of those who think it will. This assertion is made in the belief that the principles are in line with the general theory of the first section which is, in turn, believed (as befits Human Dynamics) to be applicable to all groups—including the imaginary.

INTERACTION RESEARCH METHODOLOGY

The scientific investigator is concerned with (a) formulating hypotheses and (b) testing the hypotheses.

The formulation of significant hypotheses is a creative act—in which some stress buried in the total nervous system is verbalized as an insight to be tested. Truly original hypotheses, insofar as such exist, are produced from much intensely experienced and reflected-upon interaction of the researcher with the phenomena to be studied. The act of conceptualization is not a thing to be turned on at will: it is a behavior which meets needs in the investigator's personality. The channeling of basic need into hypothesis-forming behavior is, of course, maximized by situations in which the psychological milieu provides opportunity and encouragement for that particular mode of self-expression.

The testing of hypotheses is a public demonstration by means of a rigidly defined ritual. The purpose of the demonstration is to assess the extent of confidence that may be invested in the hypothesis and its assumptional context. That which is accepted confidently after such demonstration is taken as "true." Basically the effort is to see whether perceptual-cognitive (hence public) steps can lead to a conclusion which is hitherto only "felt" to be correct. Another way to characterize the effort is as reconciliation of the private "subjective" frame of reference with a public "objective" frame of reference.

The present situation in studying phenomena of human interaction appears to be that: (a) setting up hypotheses is difficult because of at least the following factors (1) lack of language adequate to convey felt meaning, (2) "closeness" to self of the content, with consequent bias introduced through personal defense mechanisms, (3) lack of skill in producing social situations in which threat is reduced sufficiently for "uncontaminated" insight. (b) In testing hypotheses, we are confronted with at least the following plaguy conditions: (1) lack of confidence in results that show too much or too little argeement among observers ("too much" means that judgments are not "independent" in the sense required for objectivity; "too little" means "unreliable"); (2) lack of any sound rationale for defining units of measurement, or units of interaction (phenomenological); (3) the feeling that the categories for analysis, while frequently applicable, still somehow miss the "significant" events in the group, so that as scientists we deal only with hit or miss artifacts rather than with lawful molar behavior, etc.

In view of this evaluation of the situation, the Human Dynamics Laboratory has been as much concerned with the methodology for studying interaction as with the phenomena of interaction. This is another way of saying that we are interested *both* in the interaction being studied and in the interaction of the investigator with the phenomena. Presumably the same prin-

ciples are applicable to both kinds of interaction, even though the conclusions in one case would be called "theory" of interaction and in the other instance epistemology or "metatheory" of interaction.

We turn now to the development of the present tentatively proposed methodology for studying interaction.

Development of Methodology for Studying Interaction

A. *The Creation of Theory of the Group being Studied.* One starting point for developing methodology is the postulation of what "reality" is. We *start* with the Lewin formula:[20]

$$B_{ph} = f(P)(E) \qquad (1)$$

Phenomenological behavior is interaction *between* (function of) personality and environmental aspects. (P) and (E) are to be constructs used by the scientist, and *f* is the relationship between them; B_{ph} is overt or inferred (from overt) behavior.

But $f(P)(E)$ can be formulated in knowledge only as a result of interaction of the scientist with B_{ph}. Hence B_{k_1} the behavior of knowing by scientist:

$$B_{k_1} = f(P_{s_1})(B_{ph}) \qquad (2)$$

B_{k_1} is seen as interaction between aspects of the scientist's need system (P_{s_1}) and the behavior (B_{ph}) in the situation being studied. If B_{ph} is experienced *prior* to the experiment, the written statement signifying existence of B_{k_1} is an hypothesis suggested by the scientist. If B_{ph} is experienced *during* the experiment, the result of B_{k_1} is the observer's anecdote or tallies in categories.

Let us consider the former instance: that B_{k_1} is hypothesis-formation by one scientist. Before beginning his experiment, the graduate student or professor must in most cases get approval by his Committee or by his project-colleagues (foundation or department-induced). Actually, our scientist usually *wants* a review because one man's hypothesis can be a headache to Reality.

The members of the review committee did not participate in the initial hypothesis formation, so that scientist$_1$ now embarks on a job of persuasion. He has three routes open: (1) rationalization of the hypothesis to show that it can also be deduced from a series of accepted postulates; (2) reconstruction (so far as possible) of his own B_{k_1} in such a way that the committee empathizes and accepts; and (3) experience swapping, sparked by S_1, and leading to "reality-testing" by others.

The difficulties at the present time are, unfortunately, quite obvious. (1) suffers from the present lack of confidently accepted postulates and conceptually interrelated definitions. Moreover, if such a cognitive circle existed, a so-called *logical* deduction, if rigorously logical, could not produce new

[20] Lewin, Kurt. *A Dynamic Theory of Personality.* New York: McGraw Hill Book Co., Inc., 1935. Chapter III.

ideas not already reasonably explicit. (2) may not be impossible as an ideal, but in fact can not be expected outside of a therapy situation. (3) is commonly employed, but because each committee member is arguing from experience unshared with the others, the usual conclusion is: "Well, it sounds reasonable, and I'll go along, but....."

Of course S_1 may have the reputation of being a "genuis," in which case he goes ahead without social reinforcement or adequate communication with the resource people so essential to an investigation in this complex field.

It is possible that one or another of the above alternatives can be taken more seriously under attainable conditions.

Thus (1) may be feasible 100 years from now, although the inherent objection would remain. (2) might be possible if all researchers completed psychoanalysis successfully. (3) can be tightened up to some extent by having the committee work together on a series of projects so that they at least begin from shared prior experience.

Let us proceed with the latter as the most promising possibility. Assuming, then, that S_1, S_2, S_3, S_4, --S_n all study the same B_{ph}, we may write:

$$\begin{aligned} B_{k_1} &= f(P_{s_1})(B_{ph}) \longrightarrow K_1 \\ B_{k_2} &= f(P_{s_2})(B_{ph}) \longrightarrow K_2 \\ B_{k_3} &= f(P_{s_3})(B_{ph}) \longrightarrow K_3 \\ &\text{etc.} \end{aligned} \qquad (3)$$

K_1, K_2, K_3---K_n are the verbalizations of hypotheses by each of the scientists.

The problem now is to arrive at a *collective* knowledge K_c or a *group* knowledge K_g. In our eyes the distinction is vital.

To arrive at K_c, requires *finding agreement* in content of formulations K_1, K_2, K_3, etc. [Rigorously, this would be done by a second team who would hunt for categories applicable to all the formulations and would then assess agreement within the categories. *Their* personalities would also enter in, and the selection of categories could be on either a collective or a group basis, but let's not complicate it too far!] K_c represents that which can be perceived as common to the various reports. It is an "average" quality of knowledge. We may represent K_c (fancifully, to be sure) as follows:

$$K_c = \frac{\overset{n}{\underset{o}{\Sigma}} K_{a,b,c\text{---}1}}{n} \qquad (4)$$

This is meant to suggest K_c as an average set of perceptions common to areas represented by categories a, b, c, ---1. The categories are chosen on a trial and error basis to maximize K_c. It follows that K_c has the following characteristics:

a. The observers strive to think alike, thus maximizing K_c through destroying their independence of sensitivity. They "role play" each other or whatever person is identified as a V.I.P. in the situation.

b. The categories selected are likely to be overt behavior, because otherwise agreement is too low.

c. Uniqueness of observer response is discarded as troublesome; insofar as the uniqueness is food for thought, thought is to that extent malnourished.

d. The problem of making interpretations at a molar level remains unsolved, and hence there can be no significant contribution to theory.

e. There is no assurance (because of lack of understanding at molar levels) that hypotheses so obtained will fit any other situation.

f. There is no assurance, semantics being what it is, that the "fit" of perception into categories means the same thing for each scientist.

Let us consider the other possibility, that K_1, K_2, K_3, --K_n can be combined into a group product. In this case we drop the pretense that several sets of written statements can interact with each other, and we let S_1, S_2, S_3-- do the interacting. If B_{k_g} is the knowledge formulating behavior of the scientist *group*:

$$B_{k_g} = f_g(P_{s_1})(P_{s_2})(P_{s_3}).....(P_{s_n}) \longrightarrow K_g \qquad (5)$$

There is no K_1, K_2, K_3, etc. These knowledges are internalized by the scientists. f_g is the group process among the scientists. If f_g is "good" group process (see Chapter 1), then K_g is not majority vote, nor is it leader-supported-by-scared-rabbits. K_g should have these characteristics:

a. The observers preserve their independent and different sensitivities as resources to the group.

b. The categories selected are likely to represent molar behavior because only at that level can the various phenotypical descriptions be reconciled.

c. The categories used are likely to represent the most significant psychological events (regardless of preconceptions) because these have most impact on *all* the observers.

d. There is some assurance that the hypothesized relationships will "fit" other groups because the level of abstraction is reasonably high.

It seems clear that if the scientist team can lick the f_g problem—no mean task in our present academic atmosphere—the reward in good hypotheses could be great.

Two further points have broad implications: (a) the selection and training of the scientist team *as a team*, and (b) the relationship between experience for hypotheses and experimental situation for testing. We shall consider these points.

It is clear that for K_g, we want scientists whose sensitivities are different and great. At the present time, at Chicago, we have these sensitivities in the team: A gets butterflies in the stomach when the group frustration climbs above a very low threshold. B glows whenever the group morale reaches a certain relatively high plane. C is sensitive to the treatment of individuals by the group. D seems preoccupied with the adequacy of problem structuring and the extent to which all contributions add together in problem solving. Such a range of sensitivities means that the group of four can be rather comprehensive—it should not overlook too many gimmicks.

To maximize the differences in sensitivities, the scientists actually participate as members in the groups being studied. Instead of feeling "left out"

and frustrated at being unable to stick in an oar, they feel the full impact of whatever interdependence exists. This is no place to try to be objective and unbiased. The need is for creativity and enough internalized stress that the need for insight is strong.

Having scientists with an adequate range of sensitivities among them we may now consider what happens when they get together for a diagnostic hypothesis-producing meeting. As a group, they will have their own culture which may be defined in terms of role expectancy, climate, and standards. Their processes may be viewed functionally through such aspect-glasses as reality-testing, abstracting, generalizing, reasoning indirectly, sharing feeling, and the like.

Suppose that the range of sensitivities, the culture, and the functional processes (and attitudes) in this group constituted a representative sample of their counterparts in the international and current collegium of scientists? Then K_g would be within the frame of reference of K_{st}, the accepted scientific theory—although, of course, the hypotheses have still to be tested.

We have proposed that we want each scientist *as an individual participant-observer to react freely and meaningfully in response to his own needs.* (How else can he define the boundaries in the situation?) But *as a group attempting to arrive at group hypotheses, we want adequately represented the intellectual discipline reflecting accepted scientific attitudes.* Under these conditions, we shall have very considerable confidence in our hypotheses.

One further possibility exists to increase confidence that the group hypothetical map will correspond to the phenomenological territory. One could have the scientist group *set up hypotheses from experience with the experimental group itself,* rather than with a prior group.

At this point in the discussion we are confronted with two sets of confident information: the scientist-group's unsystematic judgments about molar behavior (of individuals and group) in the experimental group; and the recorded sound, noise level, feeling indications, (etc.) of overt behavior (see Chapter 4). *It is in the process of relating these two—confident but abstract description and explanation on the one hand* and *objective specific recorded data on the other hand—that theory is constructed.* The scientist-group's impressions are not theory, even though they are genotypical in form. Theory is a body of intervening variables which are conceptually related at the molar level and are operationally definable in each application situation. We are seeking the smallest number of variables which are required to bridge the gap between the data and the abstract impressions. Since we have confidence in both ends of the bridges, we may now, at our leisure, try out various bridges until we find the ones that fit.

The Nature of Interaction Concepts

We must now consider the operations involved in constructing and validating the theory. The starting point once more is the postulate from

which we took off before, namely $B = f(P)\ (E)$. The nature of these terms must now be examined.

(P) and (E) refer to *structural* characteristics. (P) is some aspect of the system of needs. (E) is some aspect of the structure of action-possibilities or internalized perceptions of the situational force pattern. f is a concept of *mode of behavior* or response; B is observable or reasonably inferrable engagement in purposive activity. The *intervening variable* is f. Tentatively it appears to us that f categories should be obtained by breakdown of the basic modalities: attack, withdrawal, dependency, disintegration, and problem solving (integration). These are molar dynamic categories.

At this point, certain perplexities obtrude themselves. This simple phenomenological postulate is inadequate. The difficulty revolves around a notion which may be expressed in the following 2 ways: first, the formula, by limiting (E) to the subject's perceptions of the situation, cannot take into account either "objective" unbiased "reality" or known facts about the operation of any external factor not yet at some level of awareness in the subject; second, the formula does not take into account the observer interaction with the phenomena—the fact that to the observer, B_{ph} occurs in a situation whose structure is different for the observer than for the subject. These two statements say the same thing if one assumes that the structure of the situation is objectively described by the observer.

It is necessary to recognize that $B_{ph} = f\ (P)\ (E)$ describes a *limited,* albeit fundamentally important class of behavior. These are the behaviors by which a person's need system interacts with his subjective world view. Presumably such interaction should result in reorganization of the world view in such a way that drives can be channeled toward action and the reorganization of the need system in such a way that it can be actualized by means perceived to be available in the changed situation. In other words, the type of interaction postulated in the formula is *integration*—the development of consonance between need tension system and subjective world view.

What, then, can be said about perception and action processes? What other classes of interaction do we need to work with to comprehend human interaction? How can soon-to-be-perceived factors in the situation be represented and conceptualized? How can we take account of the obvious fact that theory is held by the observer or some other person—that it does not float around loose, disembodied from the intellectual processes of actual people?

The two approaches to this set of questions are: (1) study more and more B_{ph} in an effort to arrive "inductively" at additional interaction types; and (2) study the processes of conceptualization by observer to see what types of interaction concepts are possible and, indeed, are used whether or not the observer knows it. The former approach is seductive because it sounds like "research"; if done at all rigorously, however, it must, by definition *fail* because conceptualization guided by the B_{ph} formula can only produce notions about integrative processes. No new categories can be added so long

as one stays within his basic postulate. We have, then, no alternative but the epistemological approach; what are the ways of knowing, and what classes of interaction concepts are possible within these ways of knowing?

It is clear that our starting point must be a postulate of the nature of interaction as understood by the observer, not the actor, in the situation. Such a postulate could be produced by a philosopher interested in the nature of "reality"; it cannot come from a psychologist who takes "reality" for granted and therefore is unaware of alternative ways of postulating its nature. The terms of the postulate must refer to kinds of knowledge, and the processes must be intellectual processes in the observer. (What we are saying is that psychological theory is actually the projection into the situation "out there" of patterns of thought by the scientist.)

Dewey's concept of interaction supplies the missing elements:

$$\text{Interaction} = f(\text{internal conditions})(\text{objective conditions}). \qquad (6)$$

Interaction occurs as a simultaneous change of internal and objective conditions. "Conditions" are represented in the mind of the observer. In science, conditions are represented by statements. The scientific evidence (or demonstration) of an interaction is that the described set of conditions at time_1 is different from the described set of conditions at time_2.

There are as many different kinds of condition statements as there are operationally definable, different types of thinking. At the present time, it is convenient to think of two kinds, each of which is produced by different thought processes. The two types of condition statements recognized at the present time are:

a. Structural, descriptive, associative, enumerative. Such statements *describe* the situation, the relationships among parts of a system. At a given time they do not indicate tensions, drives, motivations. They do not indicate motion or change, although structure is the frame of reference for change. (For convenience, a pattern of processes will be called a manifold or pattern, not a structure.)

b. Process, tendential, causal, tensional, explanatory. These statements are *explanatory*. They imply ongoing process or change. They suggest determined or necessary sequences of structures through time, and concepts of cause-effect. These statements convey principles of change; they imply goal-seeking and purpose and direction—as seen by the scientist. All the process statements are *as-if*.

It is taken as self evident that, at the level of abstraction of a discussion of theory construction, the intellectual processes through which these two kinds of statements are produced are substantially different. A condition statement, then, may characterize a *structural* aspect in the situation, or it may characterize a *process* going on. At any given moment, a process would be seen as a *realizable force, strain* or *instrumental need.*

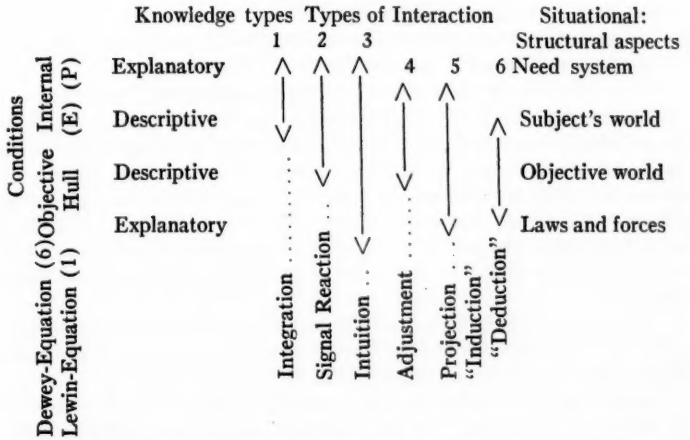
Descriptive and explanatory statements may communicate (the observer's notion of) internal or objective conditions. Internal conditions are the observer's notions of the subjective world and need system of a person

being studied. Internal descriptive conditions portray the observer's notions of the subject's perceptions of the situation, at all levels of consciousness. Internal explanatory conditions portray the observer's theory of the subject's dynamics; his tension, operative goals, and needs. Objective descriptive conditions portray the subject's overt behavior, all the agreed upon "facts" in the situation, and the social and cultural agreements of the group—as they would be seen by a sociologist. Objective explanatory conditions portray all the established cause-effect relationships and social laws governing the situation: physical laws, physiological laws, normative psychological generalizations (social and cultural controls). In terms of these laws, the physical, social, and cultural forces in the situation can be identified. These latter are the objective determinants of behavior acting from without the individual's own need system.

We may expand the conception of an interaction to mean an occurrence which brings about a simultaneous change in any two of the types of statements. Since there are 4 types of statements, there are logically 6 types of interactions, since the number of different pairs obtainable from 4 categories is 6. The scientist, then, deals with 6 unitary types of interactions. The problem for the psychologist dealing with phenomena is to discover what combinations or patterns of these types of interactions are possible; each such pattern is a response modality.

The above discussion may be summarized in the following table, which also portrays the 6 unitary types of interactions logically possible.

Table 1 Four knowledge types and six types of interaction



The names assigned to the 6 types of interactions are purely arbitrary. The relationship of the 6 types to Lewin and Dewey as here interpreted is of

interest. The (P) and (E) structural aspects are confined to internal conditions, and B_{ph} must be an interaction of type 1. The objective conditions, referring to the "foreign hull," are outside the possibilities of B_{ph}. Our use of the *observer* frame of reference for interaction distorts Dewey's concept so that formula 6 should not be applied too literally. Thus it appears from our table that interaction (1), being entirely within what we have called internal conditions, could not satisfy equation (6). Actually, Dewey specifically includes as an interaction "building castles in the air,"[21] which contains interaction 1 as one of the elements. The problem of subjectivity-objectivity of world view is an important one for the *observer* but less so for the actor, since the descriptive *internal* conditions are acted upon as if they were also descriptive *objective* conditions.

In testing the logical categories of interaction against phenomena, we have two possible aims: to exclude categories that do not occur, or to assume all categories can occur but not necessarily alone. Since the 6 interactions seem to be reasonably name-able, one rules them out only with considerable reluctance. Our inclination then, is to seek for rules of association among interactions rather than for rules of exclusion. Thus one may suggest as reasonably in line with current concepts the following hypotheses:

1) Observed behavior must include interactions of types 1, 2, or 3.
2) Interactions 4, 5, and 6 cannot occur alone.
   Reasoning: Whether motivation is "intrinsic" or "extrinsic," there is no behavior that does not to some extent involve the individual's need system.
3) Interactions 2 and 3 occur in the unconscious.
   Reasoning: Consciousness involves awareness of goings-on in the subjective world picture.
4) Interaction 6 is impossible as a psychological process, although it may be a useful social artifact and end product.
   Reasoning: Interaction requires human agency.

The interaction types deduced above are presumably fundamental qualities of behavior that a scientist will be working with in his thinking. We do not know whether these interactions should be regarded as microscopic events occurring in rapid sequence, whether they should be regarded as dimensional abstract qualities, or whether they should be seen as functions carried through. The problem of operational definition or relation to evidence is complex compared to the simple meta-theoretical derivation given above.

We have tentatively decided to regard these interactions as theoretically constructed unitary microscopic behaviors which in particular arrangements of pattern and sequence constitute *molar* constructs of behavior.

Molar concepts of behavior must come as inductions from the economics of social-psychological activity. In other words, once one accepts the unavoid-

[21] Dewey, John. *Experience and Education.* New York: The MacMillan Co., 1938, p. 42.

able postulate of Western science that the job of comprehending behavior is the job of seeing its direction or purpose, then he wonders what modalities of need-meeting response are possible. The applicable theory to which one may turn is concerned with imputed psychological goals of behavior in described social situations. Having accepted the theoretically-posited goals, one must then resort to data to find out how, in fact, these goals are achieved. Thus if one starts with the supposition that the organism will behave in such a way as to maintain its concept of self against threat, one is then ready for the next step of finding out the typical dynamics of the process under different types of threat in different situations. These categories of "typical dynamics" are modalities of response, and represent molar behavior units.

The modalities of response that we are concerned with until we find something better are: *withdrawal, attack, dependence, disintegration,* and *integration.* The latter includes all problem solving, all efforts to resolve conflict through insight and creative reorganization of subjective world, or need pattern; or through changing the rules for integration of the two.

These categories provide a good bridge between the experiencing and the theorizing of the scientist because they can not only be rationalized in the head, they can be felt in the viscera. In other words, by working within these categories, the observer begins with feelings of his own which are verbalizable and therefore susceptible to symbolic manipulation (as Bion[22] has demonstrated so delightfully). The importance of involvement at the feeling level of the scientist in the group process being studied has been discussed earlier.

The development so far has the following implications for research method:

1. The studied portion of the life of the group can be divided up into modal units; each unit represents the time during which one or another of the basic types of modality is going on. The division into units can be accomplished in two ways: a) by agreement among observers as to where each modality begins and ends—this judgment to be made on a global "feeling" basis; and b) by application of operational definitions to the data (of several complementary kinds)—this is the problem of categorization. The second method is required as a means of demonstrating that the unitizing is done within the public objective frame of reference. The first method will be required for some time to come as a means of checking and improving beginning attempts at operational definitions of categories.

Two sorts of relationships should emerge from this step: 1) description of the conditions under which each modality is found by the observer; 2) relationships among variables represented in the complementary instruments. Such findings represent systematic relationships, but not causal relationships (although if context is developed in dynamic rather than structural terms under 1) there will certainly be *some* expectancy of particular sequences.

[22] Bion, W. R. "Experiences in Groups," *Human Relations,* vol. I, 3, vol. I, 4.

2. The next task is to discover the pattern and sequence of interaction within each unit. The method for doing this must be based on more insight than has so far been explicated concerning the nature of the modal unit.

Since the modal unit represents molar behavior, it may be assumed to endure in time until the need of the group is assuaged or until some other need (such as to get out of frustration) becomes stronger. In either case, the group appears to have reached a decision (perhaps unconsciously), or to have satisfied the need in some other way. In life-space or cognitive terms, a need is a demand for structuring of some inadequately differentiated area.[23] In expressive-emotive terms, a need is a demand for sharing of (and hence acceptance and reality testing of) feeling by the group. These two aspects of need are fulfilled through the interaction pattern and sequence occurring during the time when the need is being dealt with.

We thus have one kind of guide to discovery of the interaction sequence: namely ideas about the nature of the process that must be going on. In addition there is another fascinating lead that can be followed: Bion's observation that the individual whose role is activated at a given time is the individual whose behavior will meet (more or less) the momentary need of the group. It is in this sense that a group is a "multiphrenic"[24] individual. The many sides of the group's personality system, the others, are concretized and located in the separate individuals in the group.

In considering the cognitive aspects of interaction during the unit, one notes the startling relationship between the "social functional role"[25] and the interaction types. Although the names used for social functional roles are loose, opportunistic, and descriptive, conforming to no explicit taxonomy, still one notes the correspondence between such roles and interaction types as: "reality-tester" and adjustment; "bright idea suggester" and intuition; "group feedback observer" and integration; "group conscience" (in the sergeant at arms sense) and signal reaction. One cannot help but feel that the developing practical jargon is not all madness; there is an underlying rationale which relates individual functional role to interdependence in group goal seeking.

In considering the expressive-emotive aspects of interaction during the unit, the concept of sharing or communicating feeling must be examined as a dimension of interaction not yet dealt with (in this chapter). Although the ostensible business of the group (to change its relationship to, or place in, the larger social scene) is transacted openly and through overt verbal and action behaviors, still not all individuals are equally involved in the same ways in all phases of this business. The existence of different individual needs means different quality of involvement of each individual at different times. The impulse to participate in the group's business usually originates in the individual who perceives the opportunity to better himself

[23] Thanks to Jack Kounin.

[24] Thanks to Ronald Lippitt.

[25] Benne, K. D., and Sheats, Paul. "Functional Roles of Group Members," *Journal of Social Issues*, IV, 2.

psychologically; but there follows an elaborate pattern of feeling communication with certain other members of the group. It is through this feeling telegraphy that the impulse becomes reinforced—the individual receives encouragement—and the impulse is channeled into action. (The development of role expectancies and psyche group or clique contracts enable the individual in many instances to know without telegraphy that he may proceed.)

The expressive-emotive aspect of interaction during the unit, then, is dealt with in the question "who shares feeling (or tries to share feeling) with whom." This communication must go on continually (if sporadically) because each contribution to the group to some extent binds or needles the others into a promise of action. In other words, each contribution may be threatening or encouraging to certain people—may produce affect in them—and they will need the group's permission and help to deal with the feeling. Words like "cohesiveness," "atmosphere," "morale" characterize aspects of the communication structures. Out of such needs and the resulting feeling communication comes the group's actual direction and its actual problems, whether correctly diagnosed and verbalized or not.

It seems clear that interaction analysis within a given unit will be based on a theory which views the interaction-types as being purveyed in social functional roles which are activated through the feeling communication network. This network is characterized in the *internal conditions statements;* these statements describe the dynamic structure of the group; lack of consistency between internal descriptive and explanatory knowledge types means disequilibrium and need for integrative interaction; integration is accomplished by experimental problem-solving which in effect reflects internal conditions against the higher priority (more "real" or stubborn) *objective conditions* by means of the other interaction types. During this process of experimentation within the modality of the unit, changes in the structure of internal conditions go on with each interaction. By the end of the unit, the integration is accomplished fully or else its need has receded below threshold level; or a new disequilibrium (inconsistency) has occurred which calls for integration along different lines.

For maximum generalization and elegance, one would be concerned with data of each modality collected from many different groups. Cross comparisons among all the "withdrawal" modality units, for example, will begin to lead to inductions about what conditions (structural) must be present, and how these conditions change during the unit, and by what sequences of behavior. The effects of various structural conditions (such as degrees of "cohesiveness") on the interaction process can be examined by arranging the "withdrawal" units in order of increasing cohesiveness, and then looking for trends. Growth characteristics can be uncovered the same way.

3. Prediction of factors found associated with each other is possible as a result of steps 1 and 2. But prediction of conditions at $time_2$ from conditions at $time_1$ is not very probable, although there may be some types of

modality sequences that are found empirically to occur with regularity. But to arrive at a predictive theory (as distinguished from empirical systematic generalizations), we must be prepared to deal not with interaction alone, but with the structures within which (and on account of which) interaction occurs.

A sound analogy may make this point clear: one cannot predict disease symptoms from knowledge of symptoms alone; one can, however, use symptomatology to assess the basic organismic conditions and guess what structural changes would have to occur next. The guess would be checked by indicating what the symptoms should be if the predicted change occurs; and these symptoms could then be checked against observed symptoms.

The analogy to the problem of prediction seems fairly exact. Behaviors and interactions are symptoms. From them can be inferred probable changes in structure (i.e. conditions). Knowing the probable changes in structure one must then consider how to construct a structure which could undergo such changes. For example: what sort of structure of a situation could explain alternations between apathy and progress? We must postulate organizing principles *underlying these phenomena* and these principles are the only ones from which predictive deductions can be made.

It seems clear that we shall have to rely upon studies comparing groups of different cultures and purposes in order to discover, through the total range of changes, the number and kinds of dimensions involved. Working with single groups over a period of time, we shall then need to uncover laws of change (such as the whole set of quasi-stationary equilibrium principles). Finally, we shall have to predict new equilibrium states and then the modalities characteristic of these. At this point, empirical checking is possible, and the growth (cause-effect) laws can be tested.

4. The final step in theory construction will be the statement of the basic postulates which govern both the within-modality interaction patterns and the between-modality growth (structure change) laws. Such statements will complete the formal structure of the body of theoretical knowledge.

The Testing of Hypotheses

In the first section, we were concerned with the method by which hypotheses about group phenomena may be fruitfully obtained. We emphasized the importance of obtaining hypotheses in a way that capitalizes on the observer interaction rather than attempting to deny it. The wisest course, and one possible in a pre-science which is still without a stuffy tradition, is to try to understand how we do things and then attempt to improve. Hence in section 2, the attempt was to make sure that the kinds of concepts we use anyway are included; but then also to understand how such concepts can be manipulated to build an adequate science.

Sections 1 and 2 imply the following picture of the discovery of knowledge:

1. Several observers participate in the group being studied. Each defines

his role in such a way that he can handle his own anxieties in the group, but does not attempt to influence the methods of problem solving. In other words, he plays a strictly conformist role and meets his needs within the mores of the group.

2. The observers meet together in a "good" discussion. (a) They may begin with a pseudo catharsis: "When Joe said so-and-so I wanted to kill him! What a stinker!" (b) They go on to reporting such data as conversations they had with group members during the coffee break, and at the end of the meeting. (This reporting also gets the data on the sound record of the discussion.) (2) They then attempt to identify the problems the group was facing during the meeting. "During the first twenty minutes I felt the group was reluctant to formulate a problem. There was much escape into semi-jocular side issues, such as whether to elect a chairman. I also felt there was frustration and perhaps guilt, since they all know we are 'supposed' to be here for working purposes." (d) The discussion of the problems of the group is interspersed with notions about the roles people played. "I felt that Jim was very destructive during the discussion of Mary's proposal; he seemed almost obnoxious. I couldn't tell what he was attacking. He kept looking at the leader. Then when Jack, who had been silent, came in with so powerful a clarification of the group's problem, Jim seemed to subside and to be quite supportive." "I wonder if Jim isn't really the person in the group least able to tolerate ambiguity—particularly leadership ambiguity. He expressed resentment of the ambiguity and the group picked it up and worked on it, primarily through activating Jack."
(e) The observers also make predictions about what the needs of the group will be at the next meeting. These are based on diagnosis of problems and roles at the meeting just passed. "I feel quite sure that the group can no longer avoid explicit recognition of the fact that it doesn't know how to regard the non-participants. It seemed to me there were beginning efforts to share feeling of discomfort about non-participation, and I rather expect the matter to get dealt with fairly directly next time." Such predictions are intuitive, not scientifically deductive. But the bearing out of the predictions adds considerable confidence to the observer-group statements, because verification indicates that the material is internalized validly even though it is still unavailable to public explanation.

3. Experimental hypotheses are set up. They are of several sorts:
   a. Notions of breaks or "natural units" in the meeting.
   b. Concepts of the response modality during these natural units.
   c. Some attempted explanation of the dynamics within units: Why did the sequence of remarks occur as it did: what was each individual expressing; How did the group react. (Phrase-by-phrase

study of the sound record is extremely rewarding for this purpose.)

d. Some attempted explanation of certain events: Why did the subgroup express so much hostility to the group in its manner of reporting?"

4. At this point the project director and his team take over. (This may or may not be the same group as above.) Their jobs include:

a. Reflection on the meeting and discussion records to help set up criteria for determining the beginning and endings of modal units. These criteria are then used by people not otherwise involved in the study. They study the criteria, receive some practice training in using them, and then proceed to utilize the typescript, using the sound record, feeling record, etc., to help the typescript give them valid impressions. Agreement with the observers and agreement among themselves is sought.

b. Reflection on the kinds of behaviors identified by the observers as evidence of each of the response modalities. Operational definitions, applicable to the group being studied are then set up. The helpers used in step (a) may now be given the task of classifying the units according to these definitions. Again, agreement is sought among helpers and between helpers and observers. Success in steps (a) and (b) may be taken as validation of the operational definitions of the "unit" and of each modality of response.

5. At this point, several approaches can be made to the problem of producing conceptual definitions of the response modalities.

a. What are the necessary and sufficient conditions in the situation for each modality to appear? This is an attempt to correlate structure with group need, as conveyed by the purposive or directional aspects of each modality. As suggested above, cross comparisons may be made among many units taken from many groups and all classified under the some modality.

Hypotheses relating structures to modalities can be verified by controlled experimentation.

b. What is the interaction pattern and sequence within each modality? Examination of the sequence of individual contributions, in the light of clinical data or summarized impressions of role in the group (backed up by interview), should show characteristic progressions along such dimensions as level of abstraction of content, closeness to speaker of content, observations about group process; freedom of non-verbal communication; pace and outbursts during the discussion, threat and defense reactions, etc.

The within-modality principles here could presumably be validated in almost any type of experimental social situation. Flanders' experiment on learning by individuals under two climates, because of the wealth of data

from all levels of stress, represents an excellent design for studying interaction patterns within experimentally controlled modalities.

c. What interaction patterns are associated with change in major structural dimensions? One would expect the major problem-solving emphasis within a given unit to revolve around the finding and consolidating of direction or goals. This is primarily an intra-group or interpersonal sort of activity concerned with the patterning of such structural dimensions as those given by Bales. These are: "differential degree of access to resources; differential degree of control over persons; differential degree of status in a stratified scale of importance or prestige; differential degree of solidarity or identification with the group as a whole as constituting a "subject" in-group as over against an "object" out-group or outer situation."[26]

Whatever basic dimensions of structure are selected, the intriguing question of independent variation versus pattern variation arises. Can the status scale be changed by certain appropriate types of interaction combinations without changing the entire structural pattern? If not (and we presume not) one must view these structural dimensions as factors abstracted from a complex and dynamic situation rather than as abstract but relatively simply-defined measures. In any case the obverse side of a change in structure is an interaction pattern and there should be intimate relationships between types of structural change and patterns of interaction. Phenomena-wise the two concepts refer to identical things; knowledge-wise, the two concepts arise out of different intellectual approaches and should be related through rules of correspondence. It is important that effort be directed experimentally to the investigation of relationships between microscopic interactions and structural changes; the probability seems good that the more microscopic the examination the more nearly the structure, which is after all a configuration of dynamic processes, will become identical to interaction. Such a postulate would have the utmost consequences for psychological metatheory.

We have pointed out that the theory makes use of concepts of structure (organization of conditions), interactions (simultaneous changes in pairs of types of conditions), and response modality (mode of behavior interpreted as purposive). The various possible relationships are between structure and interaction, between structure and modality, and between interaction and modality. These three types of relations are discussed under headings (c), (a), and (b) respectively.

6. We have just been discussing aspects of the investigation of within-unit interaction theory. This theory is primarily concerned with within-group, among-roles, interpersonal phenomena and conditions for individual security. The other half of our concern must be with theory pertaining to this group *as a group*: its relations to other groups, its methods of changing

[26] Bales, Robert F. *Interaction Process Analysis.* Cambridge: Addison Wesley Press, Inc., 1950. See pages 74–79.

these relationships through problem solving, and the macroscopic patterns of modalities as related to phases of group growth.

The salient relationships are once again those which relate conditions (structural), interaction, and response modality concepts. The three types of concept, when applied at the group level, appear to be:

a. Conditions: Descriptive internal conditions are conveyed in those statements which characterize the group's perceptions of the situation (self plus internalized cultural milieu; limits and control system in relation to society). Explanatory internal conditions are conveyed in those statements which characterize the group's pattern of needs and values in the situation.

Descriptive objective conditions represent the observer's concepts of the context of inter-group relations in which this group is located, as well as physical and societal environmental conditions entering into the situation. Explanatory objective conditions include the forces of tradition, mass and inter-group social psychological laws, etc.

The four types of conditions, given in the four knowledge types, are strictly similar to those developed earlier because they represent intellectual products formulated by the same observer by similar thought-operations.

b. Interaction: Assuming as before the same definition for the nature of interaction, one may expect six interaction types. In the previous development, largely centered around conceptualization of individual behavior in the group, extensive borrowing from learning and clinical theory resulted in reasonable guesses as to the "meaning" of the six types. At the present level of group-society (rather than individual-group) there are many fewer clues to guide our thinking. We must bear in mind that we are seeking for *group*, not collective individual, concepts; and that these concepts result in a changed group need system as well as a changed relationship to the larger society.

We suggest, tentatively, that the desired interactions may well be thought of as group self-steering mechanisms. The interaction types would then be developed from the frame of reference of action research. The notions of reconnaisance, planning, acting, assessing, re-planning etc.[27] may be a useful starting point for developing the interaction concepts, particularly types 1, 3, and 4. Interaction type 2 may, perhaps, be thought of as behavior in response to stereotypes, taboos, and other cultural conditioning. It suggests dependency and disintegration. Interaction type 5 suggests prejudice and scapegoating mechanisms, involving attacking and withdrawing behaviors.

What previously were modal units to be broken down into interaction patterns and sequences now take on the character of group interaction units to be synthesized into the group's way of life in the broader culture.

c. Modality of response: Conceptualization of the response modality of a group participating in societal goings-on may well take off from such

[27] Lewin, Kurt. "Action Research and Minority Problems," *Journal of Social Issues*, Nov. 1946.

notions as cooperation, competition, revolution, evolution, spread, fostering of divisiveness or cohesion, and the like. The most useful categories of response modalities at this group level may come from analysis and classification of cultural value-attitude systems.

Investigation would have for its purpose the construction of theory which explicates relationships among conditions (e.g. political and societal structures), interactions (e.g. strategy), and modalities (e.g. value-attitudes) pertaining to the group being studied in its societal or institutional context.

7. The final step in the investigation is the intellectual task of identifying the basic metatheoretical postulates underlying the interactions at both individual-group and group-societal levels.

The concepts of between-modalities laws as outlined in section 6 seem to us to be debatable from several points of view. We should like, therefore, to at least indicate the kinds of issues which seem to us to be inadequately considered in that formulation.

1. Open and closed systems. A cohesive group (one that has high potency for its members) can for most purposes be thought of as a closed system. The pattern of interdependences within the group, the group culture which to a substantial degree is the environment of the members, and the social personality of each person—these can all be known with considerable confidence. The notion that a particular macroscopic state of affairs (modality) in the group can be related to more microscopic dynamics of interaction seems reasonable, both as a matter of reflection and of experience.

The situation of a group in society is very much different. From any particular vantage point, "society" is an open system. The group under scrutiny is only one part of that unbounded system. In studies so far, the other parts of the system have never been adequately identified, except in the case of limited closed institutional societies, such as factories. Furthermore, the potency of "society" for an individual "group," particularly an effective mature group, is low. The cultural island situation is too easy to produce; politics in neighboring cities may range from exemplary to nauseous. Prediction of between-modalities sequences from knowledge of the group alone smacks too much of prediction of a group modality from knowledge of just one member.

2. Community. The solution of problem 1 probably lies in the concept of community, which may be thought of as the effective or influential social environment of the group. In this case, one is tempted to think of the attack, withdrawal, integrative modalities as characteristic of the *community* as a whole, with the modalities of a particular group (including the content of problem solving by the group) being more microscopic and analagous to the interactions of a particular individual, in a group.

3. Parsimony. A different and highly intriguing solution to the problem of between-modalities prediction lies in the possibility of characterizing certain types of terminal interactions within a modality unit as *direction changing*. For example, under certain conditions a verbalized intuition or simple reality-check might rather readily move the group from an attack modality to a dependency modality. Such possibilities are actually postulated in the concept of modality units in the first place. It seems highly likely that the immediately following modality should be predictable from the interaction sequence up to that point. But such prediction would be confined to a limited time span. This is a parsimonious solution because it involves no additional concepts not included in the individual-group system. But it hardly satisfies the goal of long-range prediction.

4. Determinism and free will. Predictability as A. Rapaport has pointed out[28] is greatest when the individual has no free will, i.e. opportunity or capacity for making choices. The social environment and the perceptions of it by individuals must be held constant. This is possible only in a totalitarian society. The notion that a scientific goal, such as predictability, can be achieved completely only in a society we abhor is most repugnant and is hereby rejected.

We must, then, consider rather carefully what kind of predictability is to constitute the scientific goal. To put the problem positively, we must inquire as to what can be predicted under conditions of vigorous growth of individuals and mutual need meeting of groups.

If predictability means ability to predict events or conditions at remote $time_2$ from known events or conditions at $time_1$, we are licked. Prediction is possible only to the extent that we can *assume* that elements characteristic of $time_1$ will also obtain at $time_2$. Our aspiration level for precision of prediction must be based on this judgment. The question becomes: what is the nature of the elements that can be assumed to remain constant or to change by known laws over a period of time?

The conditions for prediction seem to include the following:

a. Definition of a universe (closed system) large enough to contain all of the parts whose interaction between $time_1$ and $time_2$ will result in changes observable by the techniques used.

b. Description of the structure within that universe at $time_1$.

c. Characterization of the pattern of "strains" or tensions within the structure, and estimation of the amount of force inherent in this pattern.

d. Judgment of which elements of the structure would remain constant between $time_1$ and $time_2$; and assessment of their importance in influencing the possibilities for interaction.

[28] Rapaport, Anatole, "The Criterion of Predictability," ETC.

e. Judgment of the probable rate of change of the other elements of the structure; and of the dynamic part-whole relationships between the unchanged and changing elements viewed as a complete structure.

f. Description of the resulting structure of the universe at $time_2$.

It seems clear that the greatest predictability would occur when the largest number of significant structural elements can be held constant, and when the prediction refers not to the entire structure but only to some of the changing parts. Thus the results, a year hence, of therapy administered to an individual, are most predictable when the milieu remains most constant and the rate of change of the individual's structure under those conditions is accurately known. If significant elements of the milieu are known to be changing, then one must in addition know how the individual will react to these changes. If the milieu changes suddenly rather than continuously, then one must know at what stage of progress the change occurred: he must be able to synchronize a sudden change of milieu with the particular mode of reaction of the individual at that time.

We conclude that a scientific prediction should be made for such a period of time and at whatever level of generality insures constancy of non-measured factors, and that the precision of the attempted prediction must not be greater than the precision of application of known laws to the pattern of changing factors.

Comments on the Proposed Methodology

The presentation here given is concerned with the nature of the interaction of the scientist with the phenomena being studied, the basic types of concepts out of which his theory is to be constructed, the steps in experimentation, and the types of relationships to be sought and integrated into the interaction theory.

The last section is meant to suggest a basis for the long-range research program. Serious gaps are apparent, particularly with regard to the treatment of the processes by which groups mediate between the individual and his culture. The problem could be gotten around by regarding a group as an interesting artifact—a sort of side issue—subsidiary to the individual-cultural interaction. In this case the last two parts of section 3 could be omitted. This easy solution is rejected because of the existence of very real problems stemming from overlapping group potencies.

The material presented above is not all at the same level of confidence. The postulation of the three basic types of concepts, conditions, interactions, and response modalities, is confident. The identification of 4 particular conditional categories, 6 particular interaction categories, and 5 particular response modalities is much less confident. For the *content* of a theory should be based on extensive experimentation. The categories here proposed are basic content elements.

The requirements for use of the method are: a) the existence of social

scientists with well-developed personal sensitivity to certain aspects of group interdependence and some skill in participating in the group process; b) the ability of these scientists to operate as a "good" group with creativity and imagination; c) the representation in the culture of the scientist-group of the general scientific culture: this includes both scientific attitudes and internalized understandings from the relevant social sciences.

It is further clear that the training of the scientist group requires a) self-training of themselves as a group, b) training themselves to be adequate resource people, and c) a vast amount of experience in many roles in many groups.

To the testing and further study and elaboration of this methodology and the conditions required for its implementation the Human Dynamics Laboratory of the University of Chicago is committed.[29]

A word of warning will, we hope, not be seen as entirely gratuitous. When all is said and done, theory is a product abstracted from experience; it is not experience. It is a highly differentiated product, which must, however be accompanied by principles of synthesis so that the parts produced by analytical dissection can be put back together in wholes which correspond with felt experience. We are, perhaps, a little too scalpel-happy; it is easy to analyze interminably because in this field objective data are also quite microscopic. And we place a high value on "objectivity." The best guide to *development* of synthesizing principles is our trained viscera. The scientist-group's impressions (if formulated with the precautions of section 1) should be used. Any chopping up of data which destroys the bridge back to those impressions has gone too far; meaning has succumbed to triviality. There is no percentage in being objective and reliable if we don't know what we are being objective and reliable about.

Specifically we are concerned with the problem of too enthusiastic reification. It is reasonable to distinguish between process and structure; every psychological theory does. But this is a projection of the characteristics of the conceptualizing process; it is not necessarily an attribute of "reality." Similarly, the distinction between individual-group and group-societal interaction is helpful to thinking—but it does not necessarily "exist." We have to accept that we know reality only through knowledge of reality, and that is already well tinkered with by the human animal. Reality is the monkey in the mirror; and the wise monkey learns not to try to reach behind the mirror; he learns rather to make more intelligent use of the space in front—as reflected in the mirror.

[29] Ph.D. researches now in progress by Robert DeHaan and Jerry Sarchet represent attempts to test feasibility of parts of the methodology as here presented.

TECHNIQUES FOR COLLECTING DATA ON INTERACTION

Human dynamics is at present an infant science. We are still looking for useful central organizing postulates. We are unable to guess which particular factors in a situation will make the biggest differences. We have no neat metatheory which enables us even to be clear on what we are looking for. In other words, the science is very much in the exploratory stage.

Under these conditions, then, the major need is for primitive meanings and comprehension. Organization will come later. So will indices which can perhaps take the place of laborious batteries of measurements. Central factors may be identified and validated in the interests of parsimony and elegance. But at present, we must study phenomena from all angles and simultaneously with several frames of reference.

These statements are consonant with the methodology of investigation given in the preceding chapter. Data are used in two ways: (1) as an extension of observer perception and an aid to total recall of the situation so that processes of scientific reflection and creative scientist-phenomenon interaction can be facilitated; and (2) as a body of objective facts which can be classified and treated to demonstrate validity of hypothesized relationships among intervening variables, i.e., to test conceptual definitions. In a method which emphasizes exploration as much as the one proposed, power of insight comes *from the refusal* to make assumptions in advance with regard to such common matters as the following:

1. Which processes are "figure" and which are "ground" conditions?
2. What behaviors are "ego-centered" (response to idiosyncratic personal need) and which are "group centered" (response to collective individual or group need)?
3. What aspects of problem solving are "objective" (intergroup, functional) aspects and which are "process" (intragroup, interpersonal)?
4. What "stage of growth" is the group in?
5. What "group" constructs and what "individual" constructs shall be employed?
6. At what depth of penetration inward from overt behavior will judgment be attempted?
7. To what extent will motivation be attributed to the action of forces "within the individuals" and to what extent to "requirements of the situation"?
8. Whose perceptions—members, leader, passive observer, participant-observer—will be needed for understanding of the phenomena?
9. What categories shall be used for on-the-spot judgments by observers?
10. What time-depth shall be represented in the units of analysis?

Two cautions should be offered. First, the assessment of the major need for exploratory experience is meant to stimulate as rapidly as possible, not

to exclude, carefully controlled laboratory experimentation. Second, no measurements should be made only because the instrument is handy or automatic or what-not; the observer must select instruments whose manipulations of data make sense to him. Comprehensiveness should not be confused with empty shot-gun empiricism.

Techniques for Gathering Data

A variety of techniques so far used or explored in the Human Dynamics Laboratory are presented. These techniques result in data recorded in permanent form. The techniques differ in: a) degree of abstraction or inference or judgment represented in the data, e.g., its reference to behavior, to intent, to fantasy; b) extent of categorization of data during collection, e.g., its multi- or uni-dimensionality; and c) the active agent required to make the necessary judgments and records of data during collection, e.g., who collects the data. The following table may help one to locate the various techniques with respect to these three types of consideration:

Table 2—Classification of Data-Gathering Techniques

Data recorded by:	Uncategorized		Categorized	
	Behavioral	Inferential	Behavioral	Inferential
Machine (automatic)	Sound Record (process, content) Time-lapse photography		Noise level-"outbursts" Sound Record (Rhythm, Tempo) Skin Resistance Pulse rate	
Observer	Interaction: Verbal Visual	Anecdotal record Observer team conference	Check Sheet (overt behavior)	Check Sheet (intent) Rating Scale
Member		Jack & Jill Introspection (sound record) Interview	Feeling (Lever)	Rating: 3 frames Post-meeting questions Sociometrics
Group		Evaluation session Group projective test Small group interview Group products: lists decision, etc.		Paired interview

We shall describe the various techniques as we have experienced them, give an illustration of use (where that seems useful), and make such evaluative comments as seem justified in light of our experience so far.

1. *Time-lapse photography*

A 35 mm. camera, with short-focus lens, automatically photographs the group regularly at any specified time interval.

(We use old spring-driven hand movie cameras [Sept and DeVry].) Electrical contacts on a timer motor close the relay which operates the camera motor. A contact inside the camera shorts out the relay or breaks the relay circuit as soon as one picture is exposed. A brake (electrical or mechanical) on the camera is sometimes needed. Lighting is by No. 2 photofloods working from an auto-transformer on less than maximum voltage. The same lights, operated at much lower voltage provide general room illumination. Exposure is equivalent to 1/30th second at f.8 on super XX panchromatic film. Intervals used are mostly 5, 7.5, 15, and 60 seconds, and a tone signal is recorded in the sound record each time a picture is taken. Cost of negative, at 15 second intervals, is approximately $1.20 per hour, during which 15 feet are exposed. In general one will wish to print the negative and work from the projected positive. A large clock, with unmistakable second hand, should be included in the field of the camera.)

Time lapse photography *samples* all overt behavior visible from the camera position at given instants. It does not convey motion directly, and it misses infrequent but sometimes significant idiosyncratic gestures.

Time lapse photography is useful for:

a. counting frequencies of recognizable behaviors.
b. showing locations of individuals in the field relative to each other, to materials, and to physical features.
c. showing postures and facial expressions—in a group not larger than 16 or so.
d. sampling visual interaction—who looks at whom.
e. calculating distribution of time by individuals among various activities.
f. showing a variety of choices of partner, activity, materials, physical attitudes, etc., in a free-enough situation.
g. recording existence of side conversations, inattentive and withdrawing behaviors. Speakers, however, in general cannot be identified confidently unless they are made to hold up a hand or otherwise distinguish themselves.

The frame of reference of photographic data is that of a witless observer operating with a series of flash perceptions, and lacking any sense of discrimination, purpose, or concentration. Data are, of course, collected during the meeting.

The reactions of subjects to being photographed depends in large

measure upon the quality of relationships between subjects and experimenter. Initial self-consciousness ordinarily diminishes rapidly, particularly if the camera is in a dark corner, no operator is standing near to it, the machinery is quiet, and the group has a problem.

The maximum value of the photographic record is probably in a situation in which students can move around freely and indicate, through overt behavior, a variety of choices: whom to work with, what materials to use, what group to be near or in, which of several activities to engage in, and the like. Concentration on tasks, attentiveness to other people, informal conversation, withdrawing by oneself or out of the photographic field, and other indications of motivation and directness of approach to tasks can be seen. The time-sampling feature provides an extremely simple quantification: one has but to count the number of frames in which a particular posture, degree of absorption, location in room and with respect to others, or other particular visual aspect appears. Amount of time for an activity and distance covered during a given time can be estimated with fair accuracy. The free-choice work-with situation provides a continuous photographic sociogram; and it is free of "unreal" projective elements. Finally, the size of blur obtained when the time-lapse record is projected in a motion picture projector may be taken as a rough indication of restlessness.

What the photographic record does not tell one is the meaning or significance to the actor of what is seen by the observer. The entire phenomenological aspect is missing. What one sees is behavior which is *symptomatic*—we know not of what. Supplemented by other information, perhaps from a series of "calibrated" standard situations, these symptoms could become useful indices. Marks, for example, found that with one group of eighth graders, the number of frames showing students concentrating on their own jobs correlated very highly with clinical conference judgments of relative "self-directiveness" of the students. He found that such behaviors as looking at the teacher, working in a group (instead of alone) etc., had very little relationship to this global judgment.

2. *Sound recording of discussion*

A conference Dictaphone, Model A-2-M, automatically records discussion (with a new recording belt inserted once every 15 minutes).

(With our adequately sound-proofed laboratory, discussion can be picked up from a single microphone anywhere in the room. The "standard" set-up places the microphone at the center of the group about eye-level. For sub-groups, a lapel microphone pinned onto the person with the weakest voice is helpful. Small kids love it.)

Extensive experience has shown that fidelity (frequence response characteristics) is a relatively unimportant factor in legibility. Office dictating equipment is adequate for the range of voices and moods expressed in language. The major problem is signal-to-noise ratio; i.e., how loud is the desired voice compared to the background noise and hum level? Sound-

proofing, properly built amplifying equipment, good connections on microphone cables, and proper matching of all pre-amplifiers to recording machine —these factors make the difference. It is well to have an adequate service contract with the manufacturer so that he can worry about the details of maintenance.

The adaptation of office dictation equipment is primarily indicated by two conditions: first, that one wishes to keep the recordings indefinitely (in which case the 13 to 25 cents per hour cost with office equipment is a great boon); second, that one expects to do a lot of typing of the record (in which case the office transcribing equipment is most convenient). The equipment situation is relatively fluid at present, however, and one is advised to look around before buying.

If soundproofing is a problem (echoes and reverberation), any arrangement which gets the speakers closer to the microphone will help. Festooning the room with blankets is relatively foolish except to relieve the need to do *something*. Expert help in choosing microphones with appropriate pick-up patterns and in locating them most advantageously in the room should be obtained. The expert can also decide where the least soundproofing should be located (floor, wall, ceiling) for maximum effectiveness. A salesman is not usually an expert in these matters.

It takes 7 to 10 hours to type out 1 hour of discussion; and it takes 1 hour to listen to 1 hour of discussion.

Sound recording gives a continuous record of all the noises in the room (and many from outside). For a person who was present at the time of recording, the record may be 100% legible; it is rarely that legible to others. The microphone is a *single* ear, and the audiostereoscopic effect, through which one quickly identifies the speaker by positional relationships, is lacking. Moreover, the sound record will not unscramble two voices going at once, even though the observer can, through concentration and various visual cues, often succeed in this. He can do it from the sound record only through thorough reconstruction of the situation in his mind.

The sound record is useful for:

a. facilitating almost total recall by observers of the situation.
b. providing a complete record of content of discussion.
c. giving some indication of feeling tone and mood.
d. dictating observations (on a separate synchronized machine).

The record may be used in a variety of ways:

a. categorization of types of verbal behaviors, as related to problem solving, climate, tension release, etc.
b. stimulation of introspection (subsequently) by a group member. He can listen to the record and dictate his impressions and feelings at designated spots or at will.
c. analysis of tempo (words per minute) and changes in tempo.
d. calculation of time spent in pauses, general group reactions (laughter) and in various concerns of the group.

e. analysis of the verbal participation of various members of the group (an additional observer record of the sequence of speakers is a great help).
f. analysis of changes in pitch and noise level (not very rewarding).
g. counting of "outbursts" (see 3, below).
h. as a running account on which code signals can be superimposed by an observer, resulting in perfect identification of the events so signaled.

The sound recording is within the observer's frame of reference, but many researchers judge "intent" of the speaker from it. Withall's climate index is a relatively successful effort in this direction. Quinn, by re-recording in scrambled order all the contributions of one person, attempted with the aid of a seminar to judge the relative tension of the speaker from subjective judgment of voice quality. This is laborious, but has possibilities. In general, voice production is more subtly and involuntarily influenced by the individual's state of being than is overt photographable behavior.

3. *Noise level and "outbursts"*

The sound record can be played into a microphone and amplifier whose output (after rectification) goes to a d.c. voltmeter. Voltage is logarithmically related to decibels. If the voltmeter records on a moving tape, noise level is plotted. If the voltmeter needle shoots above an arbitrarily set value, an "outburst" is indicated. All electrical controls must be set at the same place each time.

Experimentation indicated that the complexity, lag, and cumulative "building up" effects shown in the noise level made analysis extremely difficult. The number of outbursts during 5 minute samples, however, seems quite interpretable, and further work with this index is projected.

An outburst is a noise level peak. It may be caused by a shout, an overturned chair, or a pistol shot in the hall. The threshold level to be exceeded by an outburst is arbitrarily chosen so that during each 5 minutes (or other interval chosen) there will be at least a couple of outbursts.

The possibilities of this measure may best be indicated by the following record of number of outbursts during 5 minute samples of a variety of activities in a 4th grade science class:

Activity	*Outbursts*
Class going out of room following a "take it or leave it" game during which 2 observers noted considerable evidence of tension	48
Individual work: making garden plans, designing markers for garden plots, planting seeds in cup	39
Playing "take it or leave it." Forced to "keep quiet." Unusual tension	20
Class comes in, gathers around chicken cage, discusses chickens. Not called to order	16

Class comes in slowly, discussing just discovered demise of their pet hamster 10

Individual work on charts and guide sheets, assimilative and review work. Relaxed 10

Quiet conversation after finishing grade sheets. Waiting for slower ones to finish 3

Substitute teacher reading to class for last 25 restless minutes. Has just announced she will stop in another ten minutes. Supreme boredom 0

4. *Physiological measures.*

Galvanic skin resistance and pulse rate have been used successfully as indicators of stress in an individual. Skin temperature was experimented with, but in our hands could not be made sufficiently sensitive or reliable—although it has been used successfully at Fels Foundation and elsewhere.

Flanders, using one teacher for one pupil at a time, found that variation in social-emotional climate by the teacher resulted in predicted non-recoverable drops in resistance and in predicted acceleration of heart beat. The moments of stress could be identified and related (from synchronized sound record) to teacher behavior. Control patterns were particularly interesting: some students could appear from voice behavior to be much upset even though the physiological measures were relatively unaffected; they could keep outwardly calm yet show terrific physiological effects; they could show close correspondence between physiological and linguistic behaviors.

It is clear that under certain experimental conditions, physiological measures can be used fruitfully to study dynamics of anxiety production.

It is suggested that, after study in a range of "standardized" tension situations, physiological responses of an *observer* to the groups being studied might be useful (interpretable) data.

5. *Non-verbal and Verbal Interaction.*

An observer keeps track of who talks to or looks at whom at all times.

Three systems have been tried out at one time or another in the Laboratory:

a. A 4-inch wide roll of paper is drawn continuously past 1-inch slot. Numbers placed along the edge of the slot stand for group members, so that as the paper is drawn past, it is, in effect, visualized as divided up into different columns for each person. If person 4 talks to 3, the observer writes a 3 in the column for person 4. Other symbols can be used to indicate general buzzing, laughter, questioning, disintegration into sub-groups, etc. The drive roller perforates the paper at one edge, with each perforation indicating 3 seconds. In addition, one observer writes in a key word or phrase from time to time so as to insure perfect synchronization with other timed dimen-

sions. The ultimate development of this design is that of Bales in his Interaction Recorder. Bales shows the communicants and the category (from an array of 12 categories) of the communication, whether verbal or nonverbal.

If one prefers to turn a knob instead of pushing a pencil, two other systems, both of which have been tried, can be suggested.

b. Two Selsyn motors can be arranged so that one drives the other; the position of the armature of one motor is reproduced by the other. One may, then, have a pointer on the "master" motor shaft; by setting the pointer to the desired category, a drum, with categories written on it, will be turned by the "slave" motor in another room. The drum may then be photographed at regular intervals (along with other instruments), and the record obtained. Using two pairs of motors, one may indicate the people involved in the interaction by one dial, and the character of the interaction by the other dial.

c. The position of the needle of a recording galvanometer can be displaced by controlling the amount of current reaching the galvanometer. This operation is easily accomplished by means of a variable resistance, like the volume control on a radio. A pointer on the knob can be set toward the person to be indicated, and the position of the pen across a moving tape will faithfully indicate the setting. This device is currently in use in the Laboratory. The a. system is cheaper, more practical, and allows for much more rapid indication of more variables; it is, however, more difficult to synchronize exactly with other records.

The question "To whom is each remark addressed?" is useful when one is concerned with such problems as "group-centeredness," authority, and social reinforcement. A record of verbal interaction alone suffers from the same defect as sound recording: data are collected for one individual at a time, and, moreover, that individual is selected through his oral participation. To base the study of group interaction only on verbal behavior is to leave out of account most of the group. We have become convinced that data on who *looks at* whom may be at least as significant, particularly when one is concerned with interpersonal forces, dynamics of stimulation, and decision making. Future studies in the Laboratory will make use of these data. Continuous photography would be the ideal technique; time-lapse, perhaps at 2-second intervals, may be adequate. Observer recording by method a. will also be tried. The group will be limited to not more than 8.

6. *Feeling Introspection.*

Members of the group are trained to push a multi-position lever (or one of 2 buttons) to indicate 2 or more categories of their feelings during the meeting. The lever or buttons operates lights (red and green) on a board visible to the group; thus there is possible an assessment of anonymously presented, continuously indicated, *collective* (not necessarily group) feeling. Permanent recording of the lever or button movements can be obtained either by photographing the light board at regular intervals or by having each

lever position or button operate a separate pen marking on a moving paper roll.

We have used both set-ups (photographing the lights which are arranged to be visible from both sides of the board). The pen system makes processing of data quicker and easier, and works independently of the light board. We use two 20-pen Esterline Angus units; 4 of the pens are reserved for synchronizing the tape with sound record, camera, and special signals by the leader or an observer.

Under certain conditions, the introspected feeling record is very enlightening. These conditions are:

a. adequate training of the group to register feeling, so that preoccupation with that task does not hinder freedom of participation in the group.
b. use of non-complex global categories, such as "positive feeling" and "negative feeling;" judgments such as "the group is being helped" and "the group is being hindered" are much more difficult and usually boil down to "plus" and "minus" feeling in any case.
c. Group acceptance of the job of pushing levers as promoting attainment of their own immediate goals as a group. (At the National Training Laboratory at Bethel, last summer, Rosenthal found that some groups found the device useful in keeping down the quantity of irrelevant statements, in expressing hostility which had not "come out" earlier, etc.) When most valid for research purposes the device also helps the group solve its own problems.
d. Interview or questionnaire following use of the device to ascertain what the group members thought was their basis of judgment.
e. Synchronization with sound record so that feeling responses can be related to stimulus statements.

This device, with cooperation of the group, makes possible a record of continuous participation by everyone. The present major uses appear to be:

a. Assessment of reaction to certain kinds of statements, useful in studying dynamics of concensus, acceptance or rejection of certain kinds of problems in the group, relation between statements and "climate" (See Thelen and Withall), boundary setting and limits, and contagion effects (with board visible).
b. Assessment of social functional personality, revealed through analysis of the types of statements reacted to as plus or minus; and the statements which do not evoke feeling above the awareness level (e.g., are not responded to). Individual response patterns can be compared to the mean of the group, to predictions made from clinical data, etc. Amount of use of the lever in one group correlated highly with sociometric attractiveness. Relative

plus and minus response did not correlate as well as total lever activity.

c. Assessment of relationship of subvocal inexplicit feeling tone or impulse to conscious aware problem solving, (i.e., the feeling indicator may represent communication from a "deeper" level than that of much of speech.) Lack of accord between the two levels can be seen in such things as vocal encouragement of a speaker accompanied by strongly negative feelings. (Flanders used speech, feeling, and physiological measures to stand for three different "depths" of response, and his conclusions based partly on this assumption, appear to be valid.)

d. Assessment of "growth" of a group over time. This is strikingly shown in the acceptance of the use of the light board. In one group the board at first was an end in itself, then a crutch to help solve problems of control of individuals, and finally it was rejected as artificial—the group had established an adequacy of feeling communication which made the crutch an encumbrance.

The responses during the meeting can be studied later by the group itself as a means of training itself through better understanding of its own dynamics. The sound record of the group discussion during such interpretative discussions is particularly revealing; the task of interpreting data provides a valid opportunity for projecting and dealing with feeling. The feeling record can also be used in individual interview, as a starting point to elicit a wide range of perceptions by the individual of himself, other people, the group, its problems, and the like. Reaction by means of the levers to the sound record of a discussion reacted to earlier gives one an opportunity, through comparisons of feelings registered on the two occasions, to study such effects as anxiety over outcome of discussion, absorption in task, "growth" during the time between treatments, and the like. Observers can be asked to use the levers, too.

7. *Content and process records kept by the observer.*

As the observer watches, (a) he writes or dictates an account of certain perceptions which will be reflected upon and categorized later; (b) he enters tallies in predetermined categories to show appearance of certain anticipated overt or covert behavior; or (c) he makes global judgments, by means of a rating scale, of intensity of given dimensional qualities in the situation. These data are collected during the meeting.

The content of the data may be at personal, inter-personal, or group level. It may refer to objective problem solving or group-process problem solving. In the case of anecdotal material, the sampling may be worked out to involve collection at the group level for some number of minutes (such as 15) followed by observations on pre-selected individuals for pre-determined periods of time, etc. The division of the data into units for quantitative treatment is done subsequently (if at all). In the case of check-sheets and

rating sheets, the entire set of categories may be reacted to every minute, 5 minutes, etc. Or there may be some attempt to fill out the categories at the end of each "natural unit" (such as the time during which a decision is made or a new idea kicked around) determined on the spot.

If sound and photographic records are made, the amount of anecdotal material is very materially lessened—provided the observer uses a watch or frame-counter to synchronize his observations with the other records. (If he doesn't, he will have to write in so many cues that the record will be as long as ever.) Under these conditions, the observer may feel free to write or dictate the interactions of his active creative intelligence. This should be more admired than it generally is as a means of getting meaningful hypotheses or categories.

The use of precategories always should imply the existence of hypotheses, taxonomy being what it is. The use of categories also implies the need for training of the observers to use them. This gets one into some interesting problems of statistical treatment of independence of judgment and objectivity, as indicated in Chapter 3. It also gets one into some interesting questions of bias because the understanding of categories also includes some expectancies of relations among them. One notices the difficulty most during sequential analysis, in which certain chains of association through time become rather strongly anticipated. Scrambling the statements takes care of *this problem,* but destroys the context—and very few researchers advocate trying to make judgments completely out of context.

The use of rating scales, usually requiring "global" (e.g., highly inferential or direct "feeling") responses, calls for vast sensitivity training on the part of the observer, and usually ends in a debate. The results are probably better than nothing, however.

This rather negative attitude is a general reaction to past frustration. In a carefully designed, sufficiently narrowed study, there is no reason why the most relevant categories can't be operationally defined and used. The only precaution we would insist upon (aside from reasonable prudence about bias and independence) is that there be some check against the group members' perceptions. We distrust any study whose data all come so completely from the observer's frame of reference, as in the usual check list study. In studying disease it is well to find out where the *patient thinks* it hurts, because he will act as if that's where it *does* hurt.

Our present methods of study involve the use of a "diagnostic" conference of the "scientist team" to get hypotheses, followed by very carefully set-up categories to be applied to an ample supply of objective data collected during the meeting. (See Chapter 3.)

After the meeting is over, the observer may (a) answer a series of questions (more or less stimulating an "essay" type anecdotal flow of perceptions and judgments); (b) rate the meeting along various dimensions; (c) characterize the meeting by distributing a large number of proposed feeling responses (e.g., 121) into numerically determined piles correspond-

ing to a normal distribution. Thus, in the first pile, the 3 statements of feeling best "fitting" the situation are placed; the next 4 in the second pile, 8 in the third, etc. (Q-technique as worked out by Stephenson and applied by Flanders, Fein, Edelson.) This pattern can be handled by correlation techniques, and reliability is high.

In general, we like to have the observers fill out all the post-meeting devices required of the group members. Since we generally, consciously or not, judge quality against ourselves as ideal, we might as well make the bases for judgment explicit.

8. *Perceptions of group members.*

During the meeting, many comments by the group members express more or less directly their perceptions and conclusions about the group. It is often convenient, however, to focus member reactions for the sake of efficiency and explicitness. This can be done by setting up during the meeting a period of time devoted to self-evaluation; and this becomes part of the recorded data. Interview by research people of smaller groups of 3 or 4 people, with the researcher taking notes, is fruitful if the members accept both the task and the observer. If the question is sufficiently unambiguous ("What things tend to make it hard for you to participate") pairs of group members can interview each other, keeping notes on what the other fellow says. If the discussion of group process at the reality level is too threatening, the group may be able to talk about a role-played scene in which the problem elements are reproduced. Or, becoming even more projective, the group may be asked to make up stories about T.A.T. type pictures (technique developed by Murray Horowitz and elaborated by Henry and Guetzkow).

The problem of interpretation is the familiar one of producing hypotheses, identifying dimensions for analysis, operationally defining categories, and setting up criteria for defining time and intensity units of interaction.

At the Human Dynamics Laboratory, we have been especially concerned with the problem of obtaining evidence from the frame of reference of the group members because motivation cannot be understood in any other terms. And a dynamic without a drive is inconceivable. The feeling introspection device described above (No. 6) was an important beginning measure; but the type of data and the range of situations in which the device may be used confidently is decidedly limited.

Current research is making use of three types of post-meeting instruments which may be worth reporting here. One is a much-elaborated extension of the usual post meeting "diagnosis and satisfaction" questionnaire used at the National Training Laboratory. The second is an adaption of the Stein Sentence Completion test. The third is a behavior-perception check sheet involving several different frames of reference for judgment. Analysis of results with all three has proceeded to the point that promising results can be expected with assurance. The instruments may be described as follows:

a. *Post meeting reaction questionnaire.* The group member is asked, at the close of the meeting, to choose certain people, behaviors of other people, and behaviors of himself which meet given criteria.

1) *Choosing other people.* Those individuals whose positions are accepted or rejected, who got most or least out of the meeting, who were most or least "fairly" treated by the group, who understood and are understood by the chooser—these are selected by each group member. Chosen people are assumed to be perceived by the chooser as furthering or hindering attainment of his ends, either actually or potentially. Chosen people may be seen primarily as particular social functional roles or syndromes of behaviors (i.e., they are carriers or foci for projection of a pattern of behavior); they may also provide cues which activate anxieties from past experience. The former may appear to be either a "group-centered" or an individual concern; the latter is usually a stereotypic over-reaction. The former basis of choosing suggests to the observer various goals of the chooser; the latter suggests types of conflict and anxiety.

2) *Choosing other people's behaviors.* Those behaviors which are evaluated as helpful or hindering, as admirable or deserving of censure, as disappointment- or surprise-producing, as absent but needed, as sources of personal discomfort—these are selected by the chooser. The evaluative dynamics seem to involve judgment of behavior as a response to needs of previous speakers or of the group; they also involve judgment of behavior as a strategic stimulus in objective problem solving by the group. In effect, the judgment is in terms of self or group-realization on the one hand, and skillfulness of diagnosis and action on the other. The former relates to within-group security, the latter to inter-group or environmental action goals. The particular behaviors chosen may be studied as possible indicators of the chooser's sensitivity and value system operating in the group situation.

3) *Choosing of own behaviors.* Those behaviors which an individual says he felt he had to inhibit, those which represent triumph and accomplishment, and those which he wishes to change—such behaviors may represent projective perception of the demands the individual makes upon the group and the demands, accepted by the individual, that he thinks the group makes on him.

b. *The "Jack and Jill" Test.* This questionnaire, worked out by Soskin and Rosenthal, is interpreted by intellectual processes similar to those used in the Stein Sentence Completion test. Each stimulus statement begins with a characterization of an emotionally charged group situation in which "Jack" (for men) or "Jill" (for women) finds him- or herself.

Among the items are:

1) When Jack felt hostile to the group, he.....
3) When Jack suddenly had a swell idea, he.....
11) Toward those who spoke little, Jack felt.....

17) When Jack was puzzled by the discussion, he.....
23) Jack was annoyed with the group because.....
31) Jack wanted to express his feelings in the group, but.....
.....
33) When the leader got exasperated with the group apathy, Jack
.....
34) When Joe told the group about his own problems, Jack....
.....

The instructions call for writing answers very quickly, and the answers seem interpretable on the basis of complete identification with Jack or Jill or on the basis of a fairly clumsy attempt to disclaim Jack or Jill. Either reaction is informative. We tend to think of the answers as suggesting withdrawal, attack, dependence, disintegration (blocking), or constructive problem-solving modalities in the various situations presented. Preliminary analysis of some of the data reveals fairly close agreement with T.A.T interpretations, with the exception that sexual anxieties are less clear and the material is much more readily translatable into predictions in group situations.

The anxieties and confusions which most interest the laboratory at the present time are those pertaining to conflict problems of overlapping group potency. Used as a pretest before the first group meeting, the answers suggest the role the individual thinks he plays in "groups" in general. In post-meeting use, the answers seem to suggest the areas of confusion and conflict between this generalized role perception and the perception of the specific roles the individual thinks he actually played during the meeting. Pre- and post- data from the first meeting of a particular training group—a rough meeting—indicated a fairly consistent shift in the individuals' perceptions of their own roles. The pre-meeting questionnaire answers indicated attitudes in line with such actions as: when in doubt, ask what the problem is; when angered at the leader, calmly discuss the leader's behavior with regard to problem solving; try to "draw in" non-participants, and the like. Following the meeting, the attitudes mostly tended toward withdrawing or attacking at times of doubt, resentment of inept leadership, hostility toward non-participants. We conclude that the instrument, subject to the usual difficulties of interpreting projective material, can be a fairly sensitive indicator of the individual's feeling about the group situation.

c. *Behavior frames of reference test.* This rating device provides a quick and systematic check of 4 sets of perceptions of role behavior: behaviors I would like to "feel free" to indulge in, behaviors I do feel free to indulge in, behaviors I think the other group members feel free to indulge in, and behaviors I think the leader feels free to indulge in.

The instrument, then, attempts to get at the cross-perceptions people have of each other. The content is either what one thinks exists or what one thinks desirably would exist. The referent may be A's concept of A's behavior, his concepts of B's behavior, his concepts of the "group's" be-

havior; A's concepts of desirable behavior of A, B, the group. Further possibilities include: A's concepts of B's concepts of A's behavior, A's concepts of B's concepts of C's behavior, etc. The notions of cross perception here used were stimulated by the Jenkins and Lippitt study of intergroup problems, and by Emmy Pepitone's work at the National Training Laboratory in 1948.

The behaviors checked on a 5 point scale of freedom to engage in the behavior are, for the most part, direction-changing behaviors, i.e., initiating behaviors. One may expect some relationship between patterns of freedom to initiate and climate.

Some behaviors listed in the current instrument:

1) Change the subject when the group is engaged in lively discussion.
6) Cut through "red tape" and "politeness" to build a closer working relationship within the group.
8) Point out lack of progress when the group seems bogged down.
10) Exchange significant glances with special friends in the group.
21) Say something to put the group at ease in a moment of tension.
23) Diagnose to the group some *real* reasons why the group is not working satisfactorily.
31) Defend the group's action, progress, or state of affairs following hostile attack.
35) Steer the group away from what appears to be an attack on one person.
40) Offer a comment in the capacity of spokesman for the group.

Discrepancies in the ratings of each behavior from one frame of reference to another suggests areas of inhibition and anxiety, as well as possible different role expectancies for others as compared to one's self. Discrepancies between ratings of what is perceived to exist and what one wants may suggest areas of discomfort and need.

Some Comments on Usefulness of Data Gathering Techniques

The reader will note certain omissions in the above list. Sociometrics of the "work-with," "play-with" sort are not mentioned. We have used them, but find increasing resistance to their use as groups mature; moreover, we prefer to ask more specific questions such as those indicated under post meeting questionnaire, section 8 a 1. Ample accounts of the device may be found elsewhere. The Horwitz Group picture projective test, elaborated by Henry and Guetzkow, is omitted because more adequate experience with it and rationale for it can be obtained from these men. We see it as a very promising instrument for making those extraordinarily perplexing interpretations of the group *as a group*. Bales' system of recording interaction is eloquently presented by Bales, and the reader is

referred to his excellent treatise on the subject. Interviewing is referred to several times, but the principles are well know; we only wish to point out the possibilities (suggested by Lippitt and others) of interviewing small groups and of having group members interview each other. We also wish to point to the usefulness of data from almost any of the above techniques as material for the interviewee to react to and explain further.

The problem of the quality and quantity of cooperation required from the group to obtain data by the various procedures is only cursorily dealt with. At one time we made a fetish of invisibility of observers and instruments. Mikes were hidden, observers were behind a screen, the camera was in an obscure corner. Little white lies were made up to explain why the room illumination was so great. The anxiety of the researcher to not "upset" the "normal" operation of the group was probably a blocking factor for him, and it communicated in some cases to the group. By and large, experience both here and at the National Training Laboratory indicates that the amount of upset in the group is a reflection of the observer's attitude toward himself and his data collecting task. If he is casual, non-exhibitionistic, and assured, he can answer questions easily and go on about his business.

In cases where the record is made by the group, as in the feeling-lever and questionnaire techniques, there is no doubt that the data are better and more interpretable if the group can see immediate values to its own goal-striving in providing the data. For this reason, the training group, in which a major objective is to study group process, is easy to get data from; the procedures employed obviously influence the group and must be regarded as part of the group experience. We think it important that the researcher should, in explaining the instrument to the group, confine his specific comments to those uses and purposes that the group is already sensitive to; he most certainly should not feel compelled to reveal his hypotheses, and he should stay away from implications that personal roles are to be studied. A research committee from the group, concerned with its uses of data for feedback purposes, can do much to help obtain mutually beneficial co-operation.

The techniques discussed in this chapter are simply those we have worked with and have confident impressions about. None of them are adequately validated as reliable measuring rods for specific purposes. All of them are suggestive, and it is hoped that the reader will be encouraged to create better devices as well as to explore possibilities in these. It is too early to jell our data collecting procedures—much further exploring ought to be done. Distortions in the group members' perception of passage of time during different activities of the meeting, for example, probably has real significance in indicating feeling of belongingness, frustration, and progress. The use of diaries to assess commitment as a product of group decision; data on informal psyche groupings between scheduled meetings of the total group; dreams and fantasies; changes in roles from group to group—all of these

possibilities have hardly been studied, and all would yield provocative data.

The problems of interpretation have hardly been scratched in the above presentation. Formally, interpretation is the problem of categories and units, of frequency, sequence, and intensity. But at the present stage, it is a matter of insight about meaning of data, as a result of both the interaction being studied and the interaction of the observer with the interaction being studied. We need a great deal more observer self-consciousness in assessing what the data can show about phenomena. We need much more attention to the observer role, not from the standpoint of training observer *alter egos* but from the standpoint of utilizing the observer's total nervous system as a responding instrument. We need much more study of the dynamics of observer participation, and particularly of the use of probes by observers or stooges to obtain tests of resistance to inducing forces. We need much more experience of beating our brains out trying to understand why Joe's remark was followed by Mary's attack (rather than Jerry's agreement, silence, change of subject, Tom's sarcasm, or Martha's reality-testing).

Basically, we need to escape from an attempted science of social psychological sympomatology to an explanatory science of individual-group-cultural-observer interaction. (See preceding chapter.) This science will come about, not by looking only at individuals alone (at any "depth"), nor by looking at the group alone, nor by looking at these two without considering the culture. Most important of all is the notion that theory is actually the set of intellectual rules for translating and reconciling (digging beneath) material simultaneously gathered from *at least two different frames of reference.* In other words, the job of theory is to provide the inferential bridge between behaviors at two different times; it must therefore be based upon "objective" observation of behavior and inference of need and also upon the rules of perception and felt group controls of the subjects. A strictly "phenomenological" theory, like a strictly "objective" theory is inadequate, because it misses the major point of theory, namely, to relate these two kinds of worlds.

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ABOUT THE AUTHOR

The author took his B.S. and M.S. in Physical Chemistry at the University of California. After working as an industrial chemist for a year and a half, he shifted to high school teaching. For several years he participated in the development of new physical science courses and supervision of student teachers at the University of California demonstration school. He joined the staff of Oklahoma A. and M. College as an Instructor in Chemistry for a year, collecting data for his Ph.D. thesis which tested some of the advantages of teacher-student planning of laboratory experiments in 13 sections of Freshman Chemistry. He completed his Ph.D. in education at the University of Chicago, worked on tests for the United States Armed Forces Institute, taught courses in evaluation, and for a year was Supervisor of Research in the Laboratory School. Moving full time into the Department of Education, Thelen began to dig in two directions: therapy and group dynamics. He felt that these were the areas which had most to contribute to the understanding of the educative process.

In November, 1947, The Classroom-Laboratory (now called the Human Dynamics Laboratory) was completed, and the series of experiments, sampled in this document, began. The sections of this document accurately reflect the major policies of the Laboratory from the beginning: encouragement of a wide range of studies dealing with the self-concept, group process, teaching methods, and community dynamics; continual effort to develop integrative concepts for dealing with this broad range of experience; much attention to the dynamics of cooperative research, eventuating in the methodology described in section 3; vigorous experimentation with and development of a wide variety of techniques for gathering data.

In 1947, Thelen joined the permanent staff of the National Training Laboratory in Group Development, and has participated in the summer laboratories as a group trainer. The study of the training process has led in three directions: a) work with groups representing different subcultures, such as a group of leaders of Jewish organizations, and a group of German leaders sent to America for a year; b) efforts to develop techniques for helping the group feedback relevant data about its process to itself; and c) efforts to use group processes as a major instrument of community change in the Hyde Park–Kenwood Community Conference in Chicago.

The author is at present an Associate Professor of Educational Psychology in the Education and Psychology Departments at the University of Chicago.

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